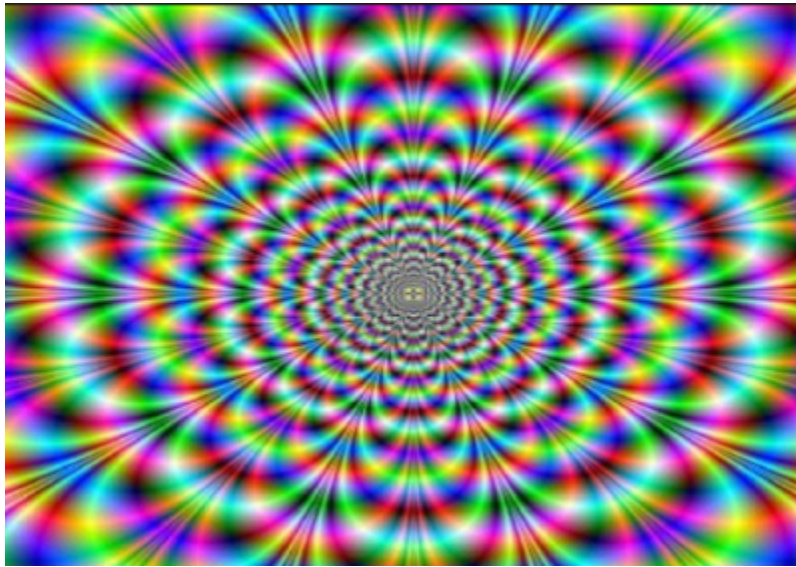


Ch. 9 – daily "Non-Duality & Science" blogs

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Essay outside of the NMT (No-Me Teaching) series 18

Quantum Reality 3 (cont) – Time 4 – physics B – metaphysical A:

The previous discussion of Linguistic Tense (*which also continues*) compares to Metaphysical Tense in McTaggart's A-series (*mentioned below*). More closely allied to his B-series are more *relative* than *absolute* references to Time. Expressions in the vein of the more *relative* expressions include "earlier than", "extended", "punctual", "coinciding with", "occurring wholly within", "partially overlapping with". In this B-series there is no strict marker indicating the Present moment, but a range of Time may include the Present moment if it is currently ongoing.

To say someone "*dances*" [*present perfect*] is to locate an *ongoing* event in a Time period that includes the Present. To say someone *danced* [*simple past*] is to locate an event in the Past as *completed*. Both statements concern the Past but the former describes an event in terms of its temporal constituency: habitual, continuous, ongoing, progressive or non-progressive, having or lacking continued relevance to Present moment. In this way such "perfect" Tenses are combinations of Tense & Aspect which relates the even to some other (*unstated*) reference point. To say "*will have been dancing*" [*future perfect*] locates an

ongoing Future event earlier than some additional reference point. To say “*has been dancing*” [*pluperfect*] locates an even in the Past, earlier than an additional reference point. When the Aspect is concerned with internal temporal constituency (A-series) of events & also the temporal relational network (B-series) in which events & times stand to each other, then unlike Tense the expression is non-*deictic*. When the internal temporal constituency of event, or relation it stands in to other events & times, is independent of its Time & Tense relation (B-series) to a Present moment, then the elements of Aspect combined with elements of Tense produce an overall *deictic* result even though the Aspect is non-*deictic*. [*enough of all that bewildering babble*]

Now besides Grammatical Tense, there are diverse other ways of locating events in Time in different languages. Time location can be indicated with tone, adjectives, nouns with verb endings, & even hand position in some concept-based sign languages, such as British. There are various parts of speech that express Time & temporal location, including:

Adjectives like *past, present, future,*

but also:

brand-new, old, fledgling, mint [condition], experimental, modern, latter-day, up-to-date, topical, traditional, ancient, bygone, obsolete, elapsed, brief, outgoing, punctual, eventual, venerable.

There are Nouns like: *date, hour, millennium, epoch, morning, day, week, year, season,* etc.

Some such Nouns are proper names like: *January, Thursday,* etc., or general notions like: *tenure, period, interim, lull, interlude, adjournment, perpetuity, delay, aftermath, successor, occasion, relic, fossil.*

Then there are Prepositions like: *during, throughout, until, up to, before, after, since;* &

Conjunctions like: *when, whenever, while;*

& other items that function as Prepositions like: *until, before, after, since.*

There are parts of words, or *affixes* that express Time relationships through Prefixes like: *ante-, proto-, pre-, post-, ex-, fore-, re-*(as in *re-build*), *neo-, palaeo-;*

& also causative suffixes, such as *-en* (as in *frighten*) & *-ify* (as in *beautify*).

There are also tenseless languages like various Southeast Asian languages including Chinese. This means that in such languages the expression of the temporal relation between the event & speech act is not grammatical. But as we have seen, this means of referring to

the temporal location of an event is but a small subset of the ways in which a grammatical Tense can be *deictic*, that is: involving implicit reference to the moment of utterance. Tenses can be imprecise & insensitive to degrees of pastness & futurity. Other linguistic resources, in both *deictic* & non-*deictic* terms, can provide information about the temporal contours of events & relations between them.

So much for a sketch of Grammatical Tense & its alternatives. All that must be separated from the other issue of *Metaphysical* Tense which concerns Quantum Reality & the Philosophy of Science in general.

Metaphysical Tense deals with temporal reality as location in the Past, Present, or Future. A simple date like “Sep 11, 2001” doesn’t pick out Tense, it doesn’t specify where “we are” temporally, in the scenario. A term like “ago” picks out Tense, referring to the Past, in a manner of “non-relational” tenses, giving properties of Pastness, Presentness, & Futurity in a less explicit way.

One key *Metaphysical* question surrounding these issues is regards strict *Scientific Realism*: “Had humans (or observers of any kind) never evolved, would there have been an objectively Present moment, & absolute distinction between Past, Present, & Future? The Yes or No answer to that question is one way to distinguish 2 major points of view regarding Tense & Time.

Those who think Tenses are *real* think there would have been such a distinction, even in the absence of any perceivers to designate events as Past, Present, or Future.

Those who think Tenses are *not real* think that temporal reality is constituted merely by the network of *temporal relations* in which events & times stand to each other, with no Time being marked out as an *ontologically* privileged Present moment (*meaning it has special status*). In other words, no distinction between Past, Present, & Future is characteristic of Time; no distinction is so projected onto Time, from our perspective.

The (*A-theorist*) holding to an Observer-Independent distinction between Past, Present, & Future see Time flowing inexorably with respect Present moment distinction.

The *ontological* privilege of being the *objective* Present moment continually passes from one moment to next. In this sense the *A-series* is dynamic.

Philosopher, John M. E. McTaggart’s 2-part ordering of positions in Time: into an (*A-series*) [with *tenses* & *meta-time*] is a *Metaphysical* rather than grammatical Tense distinction. Times are thereby ordered in regard to relative positions in Past, Present, & Future. The (*A-series*) of positions run from *distant Past*, through *ever-less-distant Pastness*, to *Present*, to

proximate (*near*) *Future*, & on through to *ever-more-remote Future*, a Continuum with a distinct, though ever-shifting Present zero-point Origin in its 1-D Space.

In contrast, McTaggart's (*B-series*) is less ordered, with Moments distinguished only into relative positions to each other, in a series from *earlier* to *later*. The (*B-theorists*) hold to no *objective* distinction between *Past*, *Present*, *Future*. For them there is no *objective* flow of Time. The ordinary distinction we draw between *Past*, *Present*, & *Future* is explained as as a Projection (*what philosopher Immanuel Kant called it*) with which we perceive reality from an mind-imposed *temporal* perspective, by which we locate events in our *Past*, *Present*, & *Future*. They would say we wrongly project that perspective on Time itself, mistakenly concluding that events are *Past*, *Present*, or *Future*, independent of our knowledge or existence. For (*B-theorists*) there is no associated temporal flow, no *ontological* privilege bestowed upon a *Present* moment, no such "privilege" as passes from one moment to the next for the (*A-series*).

The (*B-theorists*) admit no genuine *A-properties* in the World, such as: *being Past*, *being Present*, *being Future*, & of finer gradations between them. They do hold to the existence of analogous properties in the World that would be reducible to, analyzable in terms of *B-relations* such as: *being earlier than* , *being simultaneous with*, *being later than*. It just doesn't work that way for the (*B-theorists*).

For the (*A-theorists*) times & events are constantly change with respect to those *A-properties* they possess, their *futurity*, which they shed to acquire *Presentness*, which is instantly shed to acquire *Pastness*. This acquiring & shedding of *A-properties* is, for (*A-theorists*), the passage of Time.

For the (*B-theorists*), there are no *A-properties* in the World. Their *B-series* consists only of temporal relations of *Precedence*, *Succession*, & *Simultaneity*.

In one modified (*B-series*), a "present moment" is added to the pattern of events to capture some of what the A-theory thinks Time is like. But for the (*A-theorist*), the (*B-series*) lacks their essential feature of time, the true *distinction* between *Past*, *Present*, & *Future*, so it would add this feature to the *B-series* to generate an *A-series*. Thus different kinds of linguistic expression for locating events in Time (*as reviewed previously for Grammatical – Linguistic Tense*) can also be used to represent Time as conceived *Metaphysically* by the *A-theory* & the *B-theory*, given the proper additions or subtractions.

There is thus a correlation between different kinds of *linguistic* expression on the one hand, & the different *Metaphysical* views of the nature of Time on the other hand. But this correlation cannot resolve the *Metaphysical* debate about the nature of Time. We previously noted that some *linguistic*

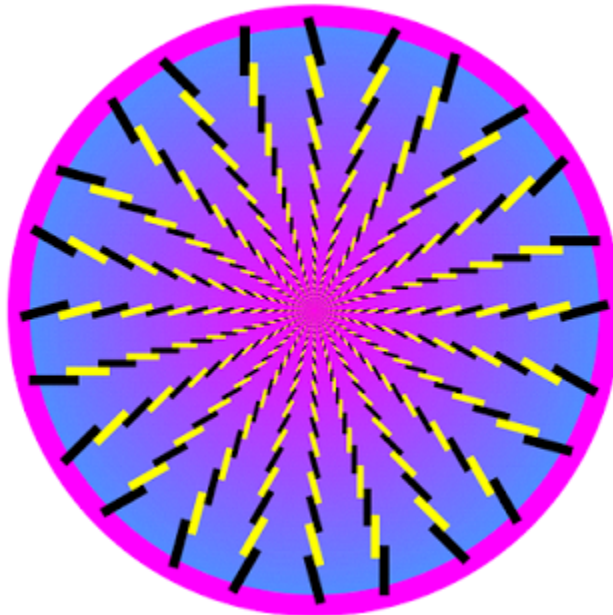
Expressions of temporal location were *deictic* – that is with reference point in Time that is dependent on context in which the expression is used. If we pick out & refer to some feature of context of utterance, [*here, you, I, me, over there, that one, the next one*], such can be *deictic* in Grammatical Tense. Such context locates the temporal event that a sentence is about. It is labeled with some time relative to the time of utterance. Thus the meaning of *grammatically tensed* sentences is dependent on the temporal context in which they are uttered.

Those previously mentioned *lexical* items like *now, today, yesterday, & tomorrow* locate the event at a particular Time in an *A-series*.

The infinite number of additional *lexically composite* expressions in an (*A-series*) further diversify a “tensed sentence” that is *grammatically tensed*.

In some sentences, however, there can be non-*deictic* expressions for locating events in Time, such as: *after dinner, moments before, at the start of*, or any kind of *date*. Those non-deictic expressions convey no information about (*A-series*) locations. But a combination of non-*deictic* expression with *deictic* expression does amount to a net *deictic* expression with information regarding the (*A-series*) location of event.

In isolation however, the *deictic* quality correlate with the (*A-series*), whereas the non-*deictic* correlates with the (*B-series*). But again, any series of temporal positions in *continual transformation*, imply temporal perspective of the person uttering, & thus constitutes an (*A-series*) ordering of events. Contrariwise, ordering a series of temporal positions by way of 2-term relations that are *asymmetric, irreflexive, & transitive*, such as: "comes before" (*precedes*) & "comes after" (*follows*) accords with the (*B-series*) of Time.



Essay outside of the NMT (No-Me Teaching) series 19 a

Quantum Reality – Time 5 – metaphysical B:

Further comparing Tensed vs. Tenseless theories of Time, we recall that the (*B-series*) offers only a non-temporal relation of *Precedence* between 2 events such as: "E *precedes* F". This does not change with Time for the (*B-series*). That contrasts with the (*A-series*) of "Past, Present, Future" where "E" or "F" does change with Time since the *Future* becomes the *Present*, & the *Present* becomes the *Past*. This (*majority view*) choice of an (*A-series*) can be further divided into 3 alternatives referred to as *Presentism*, & a *Growing Block Universe*.

Both of the (*A-series*) sub-categories just mentioned include an *objective Present*, but *Presentism* specifically assumes that only *Present* objects exist. The *Growing Block Universe* assumes both *Present* & *Past* objects exist, but no *Future* objects yet exist. So to the singular *Present* of *Presentism* the *Growing Block Universe* adds a real *Past* (which increases as a “growing” block), though neither accepts a reality for the not-yet occurring *Future*.

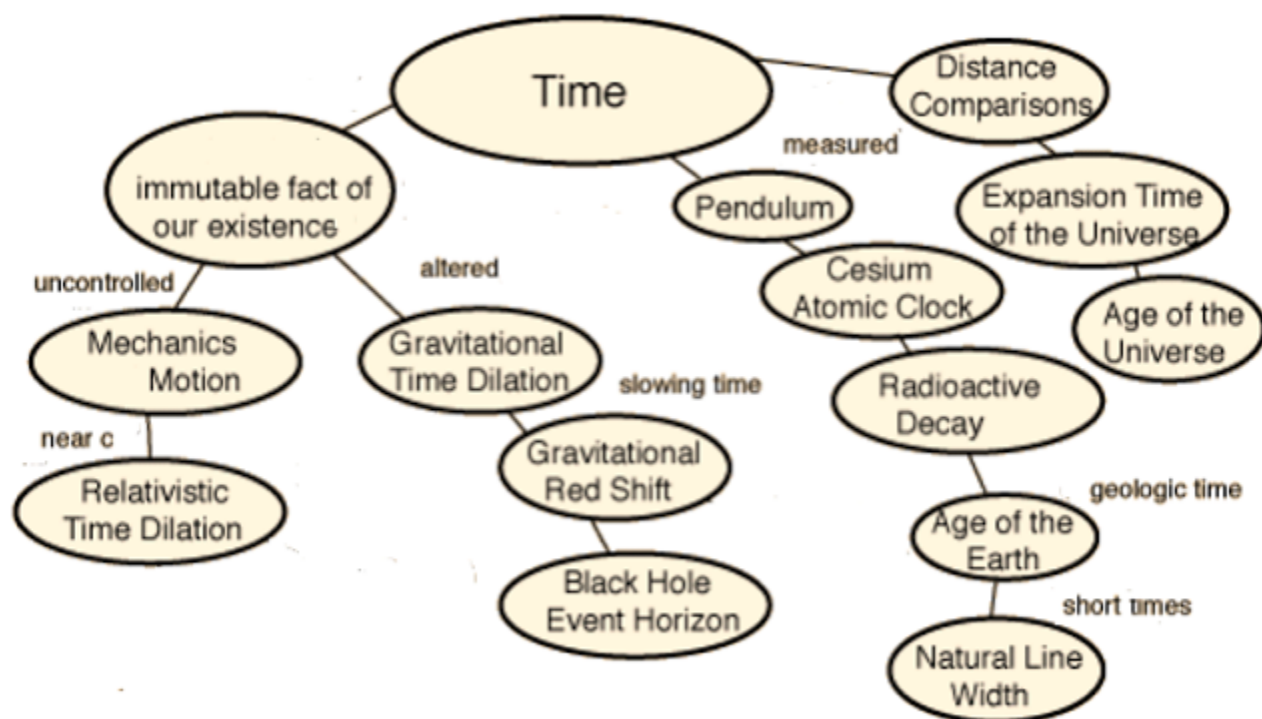
So while there is no *objective Present* in the (*B-theory*), there is a “friendlier” general attitude toward the *Future*. The (*B-theory*) in turn has it’s own (*not exactly contrasting or separate*) over-lapping subdivisions of *Eternalism* [which confusingly preceded the above (*A-theory*) “growing” block in being also called the *Block Universe* but just not “growing”] & an also closely related *4-Dimensionalism*. Without putting too fine a point on it, the essentially identical terms (*B-theory*) terms *Eternalism* & *Block Universe*, precede, but then were later confirmed by the *4-Dimensionalism* of Einstein’s *Special Theory of Relativity* (SR). [McTaggart & Einstein published at similar times, but the former was not yet familiar with the later.] Einstein’s SR depicts a “static” 4-D Space-Time. Here, the *Future*, designated relative to a specified Observer, claims the same *ontological* status as some distant point in Space.

Eternalism (just prior to SR) was a philosophical approach to the *ontological* nature of Time. *Eternalism* took the view that all points in Time as equally "real", as opposed to the *Presentist* idea that only the *Present* is real. Philosophy’s *Eternalism* or the equivalent *4-Dimensionalism* of Relativity Physics means that Time is just another dimension. *Future* events are "already there", & that there is no *objective* flow of Time. It was sometimes referred to as the "Block Time" or "Block Universe" theory, due to its description of Space-Time as an unchanging 4-D "block", as opposed to the view of the world as a 3-D Space “modulated” by a “passage” of Time. [But again, this differs from the later-named “*Growing Block Universe*” of the (*A-theory*) that is not *Presentism*.]

Reviewing again that (*A-theory*) *Presentism*, we note again that there are only the events & entities in the *Present*, along with some timeless objects or ideas like numbers & Mathematical sets. These latter additions are also taken to occur & exist in the *Present*. Furthermore, for *Presentism*, the so-called events & entities that are wholly *Past* or wholly *Future* do not exist at all.

The (*A-theory*) *Presentism* contrasts with the (*A-theory*) *Growing Block Universe* & also contrast with the (*B-theory*) *Block Universe*, more usually called *Eternalism*, or more clearly called *4-Dimensionalism*. Cutting across both (*A-theory*) & (*B-theory*) we see that *Growing Block Universe* & *Eternalism*, respectively are the *Metaphysical* theories that extends to *Future* events. Referring back to the early centuries A.D., we saw that Augustine spoke of the *Present* “knife edge” between *Past* & *Future* which itself could not not contain any “extended” period of Time. Injecting that concept into pure *Presentism* (without a “growing” Block of the Past) would dissolve Time as essentially un-real, according to the even more ancient doctrine of the “3-Times” described earlier.

But the “Father of Psychology” William James argued that conscious experience is naturally extended in Time, in that there is “the short duration of which we are immediately & incessantly sensible”. With his own earlier form of *Presentism*, James further concurred that: “everything *Past* is unreal, everything *Future* is unreal, everything imagined, absent, or mental is unreal. Ultimately real is only the Present moment of physical “efficiency” which we would now call “efficacy”. The latter refers to the ability to participate on as a “cause” in Causation, Cause & Effect.



Quantum Reality – Time 6 - metaphysical C:

Egocentric Presentism – other persons can be conscious, but their experiences are simply not present. Similarly, in related work, Hare argues for a theory of *Perspectival Realism* in which other perspectives do exist, but the present perspective has a defining intrinsic property. In one example that Hare uses to illustrate his theory, you learn that you are 1 of 2 people, named *A* & *B*, who have just been in a train crash; and that *A* is about to have incredibly painful surgery. You cannot remember your name. Naturally, you hope to be *B*. The point of the example is that you know everything relevant that there is to know about the objective world; all that is missing is your position in it, that is, whose experiences are present, *A*'s or *B*'s. This example is easily handled by egocentric *Presentism* because under this theory, the case where the present experiences are *A*'s is fundamentally different from the case where the present experiences are *B*'s. Hare points out that similar examples can be given to support theories like *Presentism* in the philosophy of time. *Perspectival Realism*, there is a defining intrinsic property that the things that are in perceptual awareness have. Consider seeing object *A* but not object *B*. Of course, we can say that the visual experience of *A* is present to you, and no visual experience of *B* is present to you. But, it can be argued, this misses the fact that the visual experience of *A* is simply present, not relative to anything. This is what *Perspectival Realism* attempts to capture, resulting in a weak version of metaphysical *Solipsism*.

Same type of argument is often used in the philosophy of time to support theories such as *Presentism*. Of course, we can say that *A* is happening on [insert today's date]. But, it can be argued, this misses the fact that *A* is simply happening (right now), not relative to anything.

Theory of Relativity: the conceptual Observer is at a *geometric point* in both Space & time at the *apex* of the “*light cone*” which observes events laid out in Time as well as Space. Different Observers can disagree on whether 2 events at different locations occurred simultaneously depending if the observers are in *relative motion*. This theory depends upon the idea of Time as an *extended thing* & has been confirmed by experiment, thus giving rise to a philosophical viewpoint known as *4-dimensionalism*. However, although the contents of an Observation are *time-extended*, the conceptual Observer, being a *geometric point* at the origin of the Light Cone, is not *extended* in Time or Space.

This analysis contains a *paradox* in which the conceptual Observer “contains nothing”, even though any real Observer would need to be the *extended* contents of an Observation to exist. This *paradox* is partially resolved in Relativity theory by defining a “*frame of reference*” to encompass the measuring *instruments* used by an Observer. This reduces the Time separation between *instruments* to a set of constant intervals.

Some of the difficulties & paradoxes of *Presentism* can be resolved by changing the normal view of Time as a “*container*” or thing unto itself & seeing Time as a *measure* of changing spatial relationships among objects; thus observers need not be *extended* in Time to exist & be aware, but rather they exist & the changes in internal *relationships* within the Observer can be measured by stable countable events.

According to the Growing Block Universe theory of Time (*or the growing block view*), the Past & Present exist & the Future does not exist. The Present is an *objective* property, to be compared with a “*moving spotlight*”. By the passage of Time more of the World comes into being, therefore the Block Universe is said to be growing. The Present is supposed to be the place where this is supposed to happen, a very *thin slice* of Space-Time, where more of Space-Time is coming into being.

The Growing Block View is an alternative to both *Eternalism* (according to which Past, Present, & Future all exist) & *Presentism* (according to which only the Present exists). It is held to be closer to common-sense intuitions than the alternatives.

Recently several philosophers have said that if the Growing Block View is correct we have to say that we don't know whether Now is Now. (The first occurrence of "Now" is an *indexical* & the 2nd occurrence of "Now" is the “*objective tensed property*.” The term implies the sentence: "This part of Space-Time has the property of being Present".) If people are talking in the Past, & at the same time thinking that “this” (their discussion) is occurring “Now”, the according to the Growing Block View, Tense is a real property of the World so their thought is about “Now” – they think, *tenselessly*, that their thought is occurring on the “edge of being” – their own *objective* Present. But we know they are wrong, because they are in the Past. They don't know that Now is Now. But how can we be sure we are not in the same position? Therefore we don't know whether Now is Now.

However, some have argued that there is an Ontological distinction between the Past & the Present. For instance, they argue that although there exists a Past, it is lifeless & inactive. Consciousness, as well as the Flow of Time is not active within the Past & can only occur at the boundary of the Block Universe in which the Present exists.

Eternalism is a philosophical approach to the Ontological nature of Time, which takes the view that all points in Time are equally "real", as opposed to the *Presentist* idea that only the Present is real. Modern advocates often take inspiration from the way Time is modeled as a Space-Time dimension in *SR (Special-Relativity)*, giving Time an Ontology (*property of existence*) similar to that of Space. But the basic idea of *Eternalism* dates back at least to McTaggart's “B-theory” of “untensed time”.

This would mean that Time is just another dimension, that Future events are "already there", & that there is no *objective* Flow of Time. It is sometimes referred to as the "Block Time" or

"Block Universe" theory due to its description of Space-Time as an unchanging 4-dimensional "Block", as opposed to the view of the World as a simply being a 3-dimensional Space modulated by the passage of Time.

Conventionally, Time is divided into three distinct regions; the "Past", the "Present", & the "Future". Using that *Representational* model, the Past is generally seen as being immutably fixed, & the Future as undefined & nebulous. As Time passes, the *moment* that was once the Present becomes part of the Past; & Part of the future, in turn, becomes the new Present. In this way, Time is said to *pass*, with a distinct present moment "moving" forward into the Future & leaving the Past behind.

Within this intuitive understanding of Time is the philosophy of *Presentism*, which argues that only the Present exists. It does not travel forward through an environment of Time, moving from a real point in the Past & toward a real point in the Future. Instead, the Present simply changes. The Past & Future do not exist & are only concepts used to describe the real, isolated, & changing present.

This conventional model presents a number of difficult philosophical problems, & seems difficult to reconcile with currently accepted scientific theories such as *SR* the theory of *Special-Relativity*.

Special-Relativity suggests that the concept of *simultaneity* is not universal. Observers in different *frames of reference* can have different perceptions of whether a given pair of events happened at the same time or at different times, with there being no physical basis for preferring one frame's judgments over another's (*though in a case where one event A happens in the Past Light Cone of another event B*), all frames will agree that *A* happened in the Past of *B*. So, in *Special Relativity* there can be no physical basis for picking out a unique set of events that are all happening simultaneously in "the Present".

Presentists have responded in the way that a *Presentist* could deny Naturalism. Such denial could take different forms. One could, claim that *SR* is not a theory about Time but about something else instead. Alternatively, one could retort by accepting that *SR* speaks to the *geometry* of space-time but reject that this has any Ontological import. Then, a *Presentist* might reject *SR-Realism*, simply asserting that *SR* is not approximately true of the World. Also, considerations from Quantum Mechanics can be invoked in an attempt to establish that *SR* is false or incomplete insofar as it lacks an absolute, privileged Frame of Reference. *Presentist* might simply accept that *SR* offers a perfectly empirically adequate theory, but to insist that Absolute Simultaneity still exists. It is just that we cannot possibly detect the privileged Frame of Reference which determines the Present. In other words, Absolute Simultaneity is not empirically accessible. Metaphysics fully relies on postulated extra-structure that can't even in principle be observed. It violates Ockham's Razor so that the

move cannot be justified by putting some *post-verificationist* Philosophy of Science on one's flag.

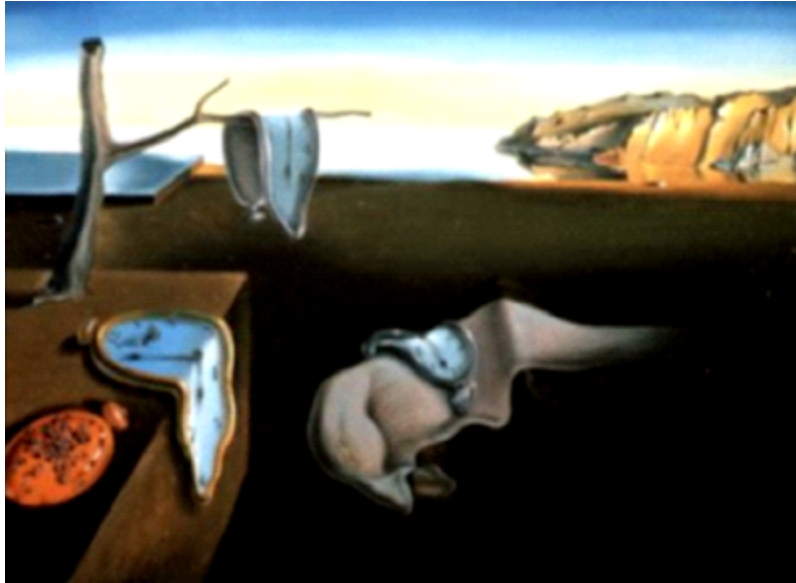
However, there are some, argued that it is possible to accept the physical predictions of Special Relativity while adopting an alternative interpretation of the theory in which there is a single privileged Frame whose judgments about Length, Time, & Simultaneity are the "true" ones, even though there would be absolutely no *empirical* way to distinguish this Frame from other frames, & no real experience could identify it.

When appealing to findings from empirically well-grounded disciplines, philosophers face a strong temptation to overstate their case — especially if their philosophical opponents can be relied on to be relatively innocent of new developments in the relevant science. I fear that some B-theorists have succumbed to the temptation, judging by the relish with which they often pronounce a verdict based on Relativity. They can practically hear the crunch of the lowly metaphysician's armor giving way, as they bring the full force of incontrovertible physical fact down upon our A-theoretically-addled heads.

But what actually hits us, and how hard is the blow? SR is false; GR's future is highly uncertain; and the *Presentist's* conflict with either version of Relativity is shallow, since the *Presentist's* manifold can satisfy the same geometrical description as a B-theorist's manifold, and afford explanations of all the same phenomena in precisely the same style. In these circumstances, how could appeal to SR or GR justify the frequent announcements that the A-theory–B-theory dispute has been “settled by physics, not philosophy”?

While the present is intuitively understood as the object that moves through the environment of time, it is common to also describe time as an object that moves, in the same way that a passenger on a train perceives the environment passing by. This perception of the passage or flow of time can be confused with the previous idea of the present moving through time, leading to the misunderstanding that time is moving through time, i.e., that it is moving through itself. This illogical premise can lead to circular questions asking how fast time travels per unit of Time.

The concept of "*Time passing*" can be considered to be internally inconsistent, by asking "how much time goes by in an hour?" The question "*how fast does Time pass*" seems to have no satisfactory answer, in which answers such as "a second per second" would be, as some would argue, circular and thus false. In addition, even if we do accept the above answer, then the statement "a second per second" can be expressed as a fraction which is always equal to "*one*". But this "*one*" has no meaning beyond being a number and is thus also the wrong kind of answer. Therefore, the argument goes, the rate of the passage of Time is nonsensical.



Essay outside of the NMT (No-Me Teaching) series 19 c

Quantum Reality 3 (cont) – Time 7 metaphysical D:

We next return from this 7-part “Time” diversion to continue *Quantum Reality* segments. More could be said about Metaphysical Time & certainly more details will later appear about the Science of Time, but for now we conclude at the Beginning, the Big Bang when Time itself evolves within the Big Bang & the succeeding Weinberg’s *First 3 Minutes*. The initial Planck quantum of Time $\sim \frac{1}{2} \times 10^{-43}$ sec is truly infinitesimally short & indescribable. None of the 4 Fundamental Forces are distinguishable yet at this tiny Universe *inflates* & expands (*not “explodes”*), thus cooling off adiabatically like rising hot air does in our atmosphere. The initial Temperature dropping throughout this Earliest *Planck* “Epoch” can scarce be estimated but was likely to cool through *undecillion* 10^{36} degrees Kelvin (*or essentially the same as Celsius at these high values*).

There follows a *Grand Unification* “Epoch” (*some “epoch”, lasting only an undecillionth of a sec 10^{-36}*) when the Fundamental Forces remain as in-distinguishable (“*unified*”) Gauge Forces (*according to a GUT grand-unification theory; the previous state describable by some yet undetermined TOE theory of everything*) except for Gravity which has not separated out as a separate weak, but long range Force. That earlier *Planck* “Epoch” is variously conjectured as Gravitational Singularity (*like a mega-Black Hole*) perhaps arising as a virtual Quantum Fluctuation from the Void, Vacuum & somehow escaping immediate return (*with its corresponding balancing “opposite” remaining the Vacuum Energy, or as Dark Energy, or ???*).

Like awesome *phase transitions*, the Gauge Forces will, one by one, start *freezing out* of the GUT as Temperature drops. In the succeeding *Electro-weak* Epoch from 10^{-36} to the relatively “ancient” 10^{-12} *trillionth* of a sec, when the Strong Nuclear Forces *freezes out* from the remaining, unified *Electro-weak* Forces (*so the division so far is from all 4 – TOE to Gravity & GUT, & now to Gravity & Strong, leaving Electro-weak still in-distinguishable*). Early within that *Electro-weak* Epoch, at 10^{-32} sec, true Cosmic Inflation begins. In about a decillionth of a sec 10^{-33} or so a the tiny pea-sized Universe expands by a factor of some 10^{80} (*a number which happens to count all the particles in the currently known Universe*).

[A mere *sextillion* of these constitutes a Googol & a mere *sextillion* Googols may estimate the odds that our *Anthropically Fine-Tuned* Universe is a random accident.

Either there is some Consciousness running the show, or we are the 1 odd case among some 10^{120} *universes* (or maybe 10^{500}) making up a hypothetical *Multi-verse* – the unprovable *Materialist* conjecture to explain the long odds.]

The next *Quark* Epoch from 10^{-12} to a long 10^{-6} *millionth* of a sec sees the Weak Nuclear Force *freeze out* to leave “ordinary” Electro-Magnetism. We find the Universe full of “Light” Photons (*electro-magnetic bosons*) & hot *Quark– Gluon* plasma containing Fermions (*quarks & leptons, such as electrons & neutrinos & their anti-particles*) & Gluons (*gauge bosons for quark interactions*). Still way too hot for Mesons or Baryons (*Protons, Neutrons, ...*).

During the next *Hadron* Epoch from a 10^{-6} *millionth* of a sec to a full Second, the *hadrons* (including Baryons (*Protons, Neutrons, ...*)) *freeze out*. Well into this Epoch, at 2% of a sec, we can estimate a temperature “colder” than a *trillion* degrees & on down to *tenth* or *hundredth* of that by the end of this Epoch.

Between 1 & 10 sec, the *Lepton* Epoch sees most of the Hadrons & their anti-particles self-annihilate, & later most of the Leptons & their anti-particles self-annihilate, leaving the mostly Photon Universe of today. There would be about one Baryon (*Proton or Neutron which freely interchange at these temperatures*) per 1 Billion “Light” (*strictly higher frequency EMR*) Photons, & this ratio essentially continues. The “few” (*percentage-wise*) Hadrons & Leptons make up all the Matter of our Universe today (*far less than Dark Matter & far, far less than Dark energy*).

Only after the *First 3 Minutes* will Quarks *gluon-together* into stable Nuclei [$\frac{1}{4}$ *Helium*, $\frac{3}{4}$ *Hydrogen, with most larger nuclei to be made later within stars*]. At 70K years, Photon & Matter [*mostly cold, dark*] densities equal, & at 377K years, Atoms begin to form, allow *Transparency*, that is: Photons to *de-couple* & stream freely through the Universe as they do today (*when inflation has cooled the 10K degrees down to the Cosmic Background Micro-wave Radiation*).

In a *billion* years the new stars will re-ionize all those Atoms to Plasma, but that's another story. In 10 *billion* years we have an Earth & *yada, yada, yada*.

Calculus for Yogis, part 1

[In a manner somewhat similar to Coordinate Space analogies used here, "graphs" play heavily here, if only because some of the Mind works this way.]

The idea behind this "Calculus for Yogis" segment is to use a simplest introduction to Calculus as a ongoing Analogy for certain spiritual principles. In dealing with Math at this very Intermediate level, it serves to warm up if we consider the idea of a "Variable", typically designated as " x ".

To the uninitiated, this is sometimes called in popular speech, the unknown quantity. *[I remember nuns in grade school complaining about then-commercial use of "X" in X-mas for Christ-mas, seemingly an "insult" to the Savior. Actually, the "X" stood in for the Greek Chi, χ . An even more obscure confusion took the capital of Eta, η , which as H looked like the Roman alphabet "H". Seeing this apparent "H" in the middle of the abbreviation "JES" for "Jesus" (ancient Greek script had only capitals), the less literate Medievals said "Jesus H. Christ".]*

In any case, " x " sometimes is "unknown". But more to the point, " x " is a "Variable", meaning that " x " can be any Real Number. "Variables" are symbols that can take on a range of numerical values. Depending on the situation, it can later be "known", but the "Variable" nature, the symbolic, generic nature of " x " is the key point.

If we need another Variable, we often use " y " why. And if another is needed, it may well be " z ". We often see this usage, not as fixed rules, but just as traditions. By the same token, tradition has us using " n " when the variable is one of Integers, whole numbers. And if we need another Integer Variable, one, we might use " m ".

Now in further exploring the traditional difference between " x " & " y ", again not strict rule, we can consider "Dependent" & "Independent" Variables; "Intensive" & "Extensive" Variables. The terms *independent* & *extensive*, & also *dependent* & *intensive* are used below in the following specific ways for " x " & " y " respectively.

independent – a measure of Time, Space. Angle. etc. that "roll on", often "linearly", unaffected by other influences.

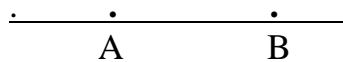
extensive – a measure again, often as other than Time, Space. Angle. etc.

The *extensive* Variable doubles & so on when other influences 2x, & so on. Twice as much Time may result in twice as much Mass appearing. for instance.

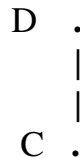
dependent – a measure of some result, changing with Time, Space. Angle. & that is affected by these & other influences.

intensive – a measure that does not double & so on when other influences 2x & so on. Temperature of hot water will not double, & so on, with a 2x increase on the quantity of the same Temperature water.

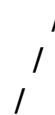
$\Delta x = B - A$ is typically the change in an *independent*, often *extensive* quantity. The evolution, the transformation, of that aspect of the path or journey often gives direction, in terms of *to* & *fro* on a 2-D graph.



$\Delta y = D - C$ is typically the change in a *dependent*, often *intensive* quantity. Often, over a Duration or Time interval, or a traversing a Distance or Displacement, the change in a *dependent*, often *intensive* quantity (*or some similar linear measure of ongoing change in perspective, such as angle, and so on*). This appears as *ups* & *downs* on a 2-D graph.



$\Delta y / \Delta x$ is the "*slope*", the "*steepness*" or "*slant*" of a rising (*or descending*) "curve" of *y* vs. *x*, even if it should happen to be a straight line.



By looking at that ratio called "Delta y over Delta x", the "*rise over the run*", we weigh the recent *history* or *progress* of *y* over the span of *x* considered. Again, that span will be of Time or Distance or in most cases some other extensive quantity, be it Angle, and so on. Putting the same *ratio* in terms of A, B, C, D, this slope becomes $(B - A) / (D - C)$. Here we can see a "minus" as giving the change in going from A to B, or the evolution or progress of *y* as it went from A to B.

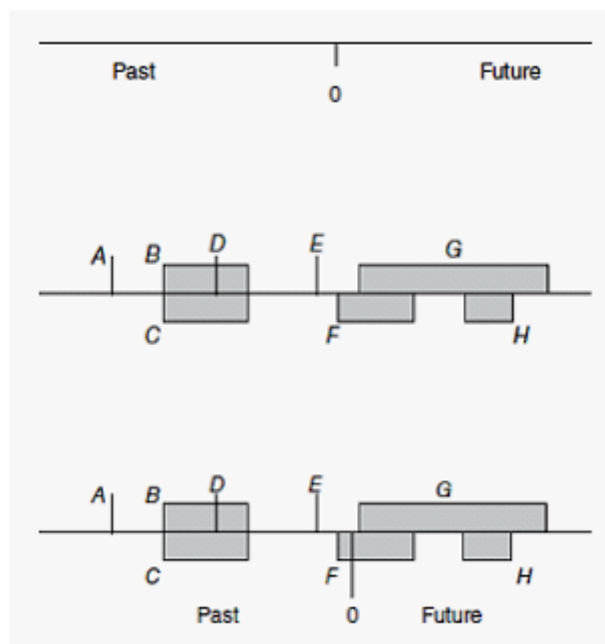
[For Analogy purposes: $(B - A)$ can be the "*imagined*" span in unreal Time or Space over which an unreal objective change is envisioned. Then, $(D - C)$ represents that unreal objective change.]

The *ratio*, putting the change in y over the change in the extensive variable x , from C to D or D – C, puts a scale, a calibration, to our measure of the change in y .

When the differences in y & x become *infinitesimally* small, the capital Greek "D" or Delta, Δ (*for average Slope*) is replaced by the simple lowercase Roman alphabet "dee" or "d" & the "ratio" of dy/dx is also called the "*Derivative*".

Like many terms in Calculus, including the term "calculus" itself, the "*Derivative*" comes to sound scary, perhaps inherently so. But this is also due to the twinge of fear, in part due to the word, when used by early grade school teachers who 1st come to mention it. Some of these teachers are afraid of what they take to be a topic daunting to themselves. Imparting that fear, along with the strangeness of the word, complexity becomes associated with terms like "calculus". The original word just means counting the little "stones", as in an *abacus*, or the beads upon the wire in a pool hall, or the rosary for a pious Catholic. "Calculus" is just counting.

So it is with "*Derivative*", the technical limit of this slope of $\Delta y / \Delta x$. This is the limit where the tiny interval of the considered changes become *infinitesimal*, designated dy



Various theories of Time "parse" different "compartments" or ranges indicated by "past pluperfect" & such grammatical terms

Essay outside of the NMT (No-Me Teaching) series 20

Some Ramana Maharshi quotes:

Man is always the Self & yet he does not know it. Instead he confounds it with the non-Self, Body. etc. Confusion is due to Ignorance. If Ignorance is wiped out, the confusion will cease to exist & the true Knowledge will be unfolded.

The thought "I have not realized", the expectation to become realized, & desire of getting anything. are all the of the workings of the Ego.

Be what you are. All that is necessary is to lose the Ego. That which is, is always there. Even now you are that. You are not apart from it.

The degree of the absence of concepts is the measure of your progress towards Self-realization. But Self-Realization itself does not admit of progress, it is ever the same. The Self remains always in Realization.

The obstacles are concepts. Progress is measured by removal of obstacles to understanding that Self is always realized. So thoughts must be checked by seeking to whom they arise. Go to their source & they will not arise.

When one daily practices more & more abiding in the heart, the Mind will become extremely pure due to the removal of its defects, & the practice will become so easy that the purified Mind will plunge into the heart as soon as the Inquiry is commenced.

When you enter the inner stillness of Being, the heart-going Mind is called the resting Mind.

When unity is replaced by a variety of perceived phenomena, it's called outgoing Mind. Know that the Consciousness always shines as the formless Self, the true "I".

Prior to excerpting the Ramana Maharshi disciple, Master Nome in the text below we continue the series:

Quantum Reality 4 (beyond the Time issue):

Quantum Reality veers from Classical Physics, apart from other ways, by directly confronting & questioning *Materialism* (or the new & improved term *Physicalism*) head-on. As previously mentioned in the Quantum Reality 2 segment, doubting the *strongly objective* or *mind-independent reality*, the original (& still officially "standard") Quantum Mechanics barely fends off the barrage of neo-Materialist counter-attacks & alternative *Realism* "fixes" to the "troublesome" parts of original Quantum Mechanics. But in that original (Copenhagen II Convention of Consciousness-created Reality) Quantum Mechanics is still only *weakly objective* at "best" or full-blown Quantum Idealism at "worst" (from the Materialist viewpoint).

As also previously mentioned in the Quantum Reality 2 segment, the statements of Quantum Mechanics remain consistent between Minds discussing its phenomena, but it still stays contained within speculation within the Mind, though predictive of observations, “better” than is Classical Physics in the small-scale & other applicable domains. *Realism* falls as contradicted by Quantum experiments (such as Double-Slit, Delayed-Choice, Quantum Erasure, Bell’s-Theorem, etc.). Way “back in the day”, Immanuel Kant generally raised good relevant questions & later “copped-out” with some lame concessional answers in his so-called Transcendental Idealism (*that happened to be less transcendental than other versions of Idealism*), foreshadowing the Madison Avenue Ad-men *Newspeak* maxim: whatever be the inconvenient truth, deny it with its opposite.

Anyway, Kant asked whether *Realism* was at all meaningful ? He then further asked whether & Classical Physics could be a steadily converging approximation & ultimately “absolutely true” description of the purported “Reality”. The 1st part holds up pretty good (“*approximation*” in an ever evolving improvement process) but fails outrageously & totally in the 2nd part – “absolutely true Reality” (*even assuming for the sake of discussion that there “is” such an Objective Reality*). *Neo-Realism* even believes that all its own mental inventions – *nuclear particles, electrons, quarks, strings, force fields, etc.* are “actually” real entities, beyond convenient mechanisms in their approximate model.

To re-iterate, *mind-independent* Reality is that which would exist even if conscious beings did not exist. Imagine a mostly “dead” Universe with nothing both alive & conscious to know about it. Why even talk about it? And talk about it to whom, & by whom? Such is an empty speculation in an empty Void. It’s the very similar inverse of the old Philosophical Conundrum: “what if nothing at all existed?” or equivalently, “why does anything exist at all?” Who would we be talking to then & who would we be. That crucial “What am I?” question (*Shankara’s version*) is not an idle question, its fundamental.

Classical Physics or any other Realist Science has not the slightest plausible explanation of the obvious fact of Consciousness. Overlooking the critical failure, brushing it under some *epi-phenomenon* rug is sheer madness. *Realist* Science may furnish Technology income by dint of its approximate fidelity, but that is *no-proof* of actual Reality. Success is always temporary & can never be proof of the Model that supports somewhat successful strategies. Any Map may get you to your momentary destination, but is never the Territory in itself, nor does your latest “arrival” prove that impossible equation. As a lesser issue, the partial success of a Map does not rule out other & possibly better Maps, even at the analogical level of Maps or Models. Even our Sense Perceptions & mental Conceptions are only Maps & Models, analogies at best (& *pure Imagination* at “worst”).

Immanuel, later Positivists, the Marburg School neo-Kantians, etc. have only remedied the gap to the weak extent that, while unprovable, *Realism* need not be “wrong” just because

you can never prove it (*like the Multi-Verse, for instance, but that is weak comfort*). A more sober appraisal must stop at the description of *Realist Science* as *mathematically synthesized relations between observed phenomena*.

We have Galileo & Newton to thank for the arbitrary models & inventions that have however resulted in the remarkable empirical success of Science, but that luster has blinded us to the fact that (*like the blind men describing an elephant*) we are still groping within our own Imagination. On the other hand, Eugene Wigner's question "as to why Mathematical Physics is as unreasonably successful as it is" provocatively supports the possibility the our so-called Universe or *RWOT real-world-out-there* is itself a mental creation from the get-go. In other words, mental constructions of Mathematics may fit the Universe so well because the "Universe" is itself a mental construction.

While we exposed the confusing "mess" of alternate theories of Time in a previous segments, the other shoe that Kant questioned, that of Space can be sufficiently dismissed with the following over-short summary from Special Relativity: "absolute void space is nothing & (*as declared by the Eleatic Philosophers, 'nothing is nothing'*) Nothing is that which does NOT exist. So-called Space is the term we use to collect all the relationships & distances between postulated Objects, & not an empty "thing" in itself (*not even a "container" like Cartesian Coordinate Space*). But the very definition of a *Material Object* (*Descartes' res extensa*) require extension in 3-D Space. Space is certainly 4-D (*or of more String Theory dimensions*) if any "dimensions" really apply at all. An inconceivable "*object*" that has no dimensions surely resembles a "thought" (ala Sir Arrthur Eddington's take on Quantum Mechanics) more than anything Material.

One last issue regarding Space concludes this segment, that arising in the 19th century from the contrasting *empirical – theoretical* poles of Helmholtz & Riemann, respectively, considering the continuity of an Object when translated or rotated in Space. Does such movement "change" the Object or is the Object, not only *mind-independent*, but also Space-independent, that is, the same no matter where & how we situate the Object. Such question entail, among other things, the *curvature* of Space (*the General Relativity issue*) & the constancy of that *curvature* which is of course dismissed by Einstein's theory of Gravity.

The assumption "that Objects exist independently of place" is valid if & only if the properties of Objects remain invariant when moved. That is, if an Object changes place, that is a movement. And if the Object continues to have the same properties in any different place, then its properties are invariant under spatial *transformation*. Riemann noted that, without this assumption, the units of comparison that are the basis for Space measurements (*light rays, rulers, ...*), the bases of distance measurement, no longer have the invariant properties on which one can base valid measurements.

The idealized alternative, Riemann's "Axiom of Free Mobility", finds counter-part in the Helmholtz idea of "rigid motions" that inspired Sophus Lie to formulate *Transformation Symmetry groups* in terms of Group Theory. Both Helmholtz & Riemann were doubtful regarding that *idealized* alternative which Einstein's *General Relativity* threw out the window, thus casting doubt about our assumptions about both Space & *material* Objects.

Calculus for Yogis, part 2

Mentioned in last section regarding the traditional difference between Variables "x" & "y" we considered "Dependent" & "Independent" Variables; "Intensive" & "Extensive" Variables.

Taking the pair 1st: *intensive* & *extensive*, we can note that *extensive* Variables compare to gross amounts, while *intensive* Variables can represent more abstract principles, less measurable like *Qualia*. In that sense these latter tend to be more "Non-Dual", less gross & densely material. Where such an Analogy breaks down is along the *dependent* – *independent* axis thought to often run parallel to the "y" – "x" or *intensive* – *extensive* polarity.

In general, the Derivative is a *projection* from the recent Past pointing to the immediate Future. This is the way we navigate in life, taking the very recent Past, & *projecting* the expected Future. So the Derivative, as well as being a slope, is a prediction, a *projection*, a best guess as to the immediate Future behavior of y, given the immediate Past behavior.

What happened to y over the recent change in x becomes our best guess for what will happen to y in the next-most change. So the Derivative is all about our anticipation of the Future, our hopes & our fears, our guesses, with successful guessing balanced by reasonable *projections*. Since seeking Happiness, dictates all our choices, a *projection* in the immediate Present, pointing towards an estimated Future, like the Derivative is like an *arrow* aiming at, seeking, pointing to desired Happiness, at least in our Analogy.

The other shoe coming down under the foundation of Calculus, the twin counterpart to the Derivative, is the inverse of the Derivative. This inverse is called the Integral. The Integral, which we will also attempt to simplify, establishes a longer record of the previous Past, accumulating results, averaging to some extent, & establishing a base of Reality & Identity, again least in our Analogy.

One could almost say that the Derivative was a continuous reevaluation. our changing of our course. But actually the course is an issue of the curve itself, the Function. That's the course over Time, or over Space, are over Angle etc. Applied to the Derivative, this is an ongoing perspective, how I look ahead, a viewpoint.

In that sense the Derivative does compare with the actual motivation for every changing course, every maintaining the course, every choice & decision. That motivation is the seeking of Happiness, & so that is one of the Analogies for which we can use the Derivative. The Integral on the other hand is more like the accumulation of Memory, of things learned, of opinions solidified, by accumulation over Time, or Space, or Angle or whatever.

An interesting feature in Math is a small raised number or Variable put immediately to the right of a number or variable such as 3 or x . This raised, small number is called the Exponent & it tells you how many times to multiply the number or Variable by itself.

So x to the 1, x^1 means multiply x by itself just one time ($1x$) & so it just $= x$.

An Exponent of 2, as in x^2 or x "squared" means we multiply x times x ,

If x happened to be 4, that latter would mean, multiply $4 \times 4 = 16$.

Continuing our elementary introduction to Calculus, we can look at the Derivative of any simple Term, which means a Variable to a given Power or Exponent, with a leading numerical Coefficient.

So a term like $7x$ "cubed" or $7x^3$ "to the 3" has a Derivative of dy/dx when y equals $7x$ to the 3 that is simply found by taking the Exponent to multiply the Coefficient & then dropping the Variable to a Power or Exponent that is 1 less.

So the Derivative of the $7x^3$ is 3 times $7x^2 = 21x^2$ & this applies to every Power.

Now in our story of elementary patterns in Calculus, it is interesting to look at various Exponents or Powers of the number, or Powers of a Variable, including taking x to the 0 (Zeroth) Power & multiplying it by any Coefficient.

To multiply something by itself is 0 times does not leave you with 0. It curiously leaves you with 1.

For those a little more familiar with Algebra, this can be easily seen (*without the distraction of fuller explanation for now*) on the following:

$$1 = x^a / x^a = x^{a-a} = x^0$$

So no matter what be the number or Variable that is raised to the 0 power, the result equals 1. In that sense. when we put a number in front of x^0 , this is just that number times 1. So, $7x^0$ simply $= 7 \times 1 = 7$.

So we end up just with the Coefficient, the number, because $x^0 = 1$. Inversely, $7 = 7 \times 1 = 7 x^0$ so we can see that the Derivative of a constant number has us multiplying the Coefficient by Zero.

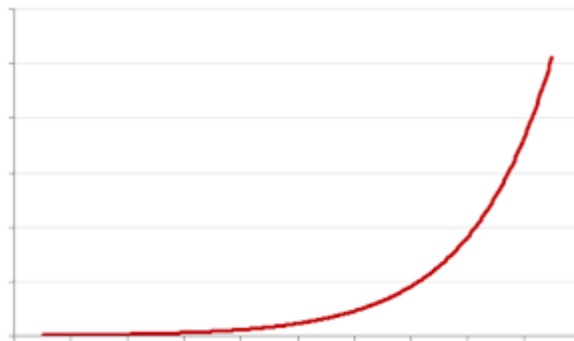
So when we take the Derivative of a simple number, we can first think of that as that number multiplied by 1, or that number multiplied by some Variable x to the 0 Power because the latter is simply 1.

So using the "Power Rule" exemplified above, the Derivative of $7 = 7 x^0$ will be 0 times the 7 & so $= 0$.

So a Constant number or a function like $y = 5$ has Zero or "no" Derivative. Seeing that its graph is a horizontal flat line, it makes sense that it has no slope.

Along with the Zeroth Power case, the First Power is another kind of "special" & simple case. First we note that the Power, 1, multiplies the Coefficient, leaving it unchanged. Then, dropping the Variable to a Power or Exponent that is 1 less, this reduces the First Power to the Zeroth Power, or the number 1. The Derivative then is just the Coefficient, the number when the Variable to the Zeroth Power equals 1.

So for the Derivative of a Term with the next higher power, $7x = 7 x^1$, we take the 1 & multiply the 7 by the 1 & drop the power of x to 0 which equals 1 so did Derivative of $7 x^1 = 7 \times 1 = 7$. So the Derivative of a number times a simple x is just a number itself.



Essay outside of the NMT (No-Me Teaching) series 20

Some Ramana Maharshi quotes:

Your duty is to be, & not to be this or that.

All that is required to realize the Self is to be still.

The Self is not now understood to be Truth, the one Reality.

The Truth of your Self alone is worthy to be scrutinized & known. Taking it as the target of your attention, you should keenly seek to know it in your spiritual heart. This Knowledge of yourself will be revealed only to the Consciousness which is silent, clear, & free from the activity of the agitated & suffering Mind.

Whenever you are disturbed by thoughts you need merely withdraw within to the Self This is not concentration or destruction of the Mind but withdrawal into the Self.

The Mind, turned outwards, results in thoughts & objects. Turned inwards, it becomes itself the Self. To ask the Mind to kill the mind is like making the thief the policeman. He will go with you & pretend to catch the thief, but nothing will be gained.

So you must turn inward & see from where the Mind rises & then it will cease to exist.

The Mind is only a bundle of thoughts. How can you extinguish it by the thought of doing so, or by a desire ? Your thoughts & desires are part & parcel of the Mind. The Mind is simply enhanced by new thoughts rising up. Therefore it is foolish to attempt to kill the Mind by means of the Mind. The only way of doing it is to find its source & hold on to it. The Mind will then fade away of its own accord.

It is with the inward-going Mind that you eliminate the outward-going Mind. You do not set about saying there is a Mind & I'm going to kill it, but you seek the Source of the Mind. Then you will find that the Mind does not exist at all.

Prior to excerpting the Ramana Maharshi disciple, Master Nome in the text below we continue the series:

Quantum Reality – Time 5 – metaphysical B:

Further comparing Tensed vs. Tenseless theories of Time, we recall that the (*B-series*) offers only a non-temporal relation of *Precedence* between 2 events such as: "E precedes F". This does not change with Time for the (*B-series*). That contrasts with the (*A-series*) of "Past, Present, Future" where "E" or "F" does change with Time since the *Future* becomes the *Present*, & the *Present* becomes the *Past*. This (*majority view*) choice of an (*A-series*) can be further divided into 3 alternatives referred to as *Presentism*, & a *Growing Block Universe*.

Both of the (*A-series*) sub-categories just mentioned include an *objective Present*, but *Presentism* specifically assumes that only *Present* objects exist. The *Growing Block Universe* assumes both *Present* & *Past* objects exist, but no *Future* objects yet exist. So to

the singular *Present* of *Presentism* the *Growing Block Universe* adds a real *Past* (which increases as a “growing” block), though neither accepts a reality for the not-yet occurring *Future*.

So while there is no *objective Present* in the (*B-theory*), there is a “friendlier” general attitude toward the *Future*. The (*B-theory*) in turn has it’s own (*not exactly contrasting or separate*) over-lapping subdivisions of *Eternalism* [which confusingly preceded the above (*A-theory*) “growing” block in being also called the *Block Universe* but just not “growing”] & an also closely related *4-Dimensionalism*. Without putting too fine a point on it, the essentially identical terms (*B-theory*) terms *Eternalism* & *Block Universe*, precede, but then were later confirmed by the *4-Dimensionalism* of Einstein’s *Special Theory of Relativity* (SR). [McTaggart & Einstein published at similar times, but the former was not yet familiar with the later.] Einstein’s SR depicts a “static” 4-D Space-Time. Here, the *Future*, designated relative to a specified Observer, claims the same *ontological* status as some distant point in Space.

Eternalism (just prior to SR) was a philosophical approach to the *ontological* nature of Time. *Eternalism* took the view that all points in Time as equally "real", as opposed to the *Presentist* idea that only the *Present* is real.

Philosophy’s *Eternalism* or the equivalent *4-Dimensionalism* of Relativity Physics means that Time is just another dimension. *Future* events are "already there", & that there is no *objective* flow of Time. It was sometimes referred to as the "Block Time" or "Block Universe" theory, due to its description of Space-Time as an unchanging 4-D "block", as opposed to the view of the world as a 3-D Space “modulated” by a “passage” of Time. [But again, this differs from the later-named “*Growing Block Universe*” of the (*A-theory*) that is not *Presentism*.]

Reviewing again that (*A-theory*) *Presentism*, we note again that there are only the events & entities in the *Present*, along with some timeless objects or ideas like numbers & Mathematical sets. These latter additions are also taken to occur & exist in the *Present*. Furthermore, for *Presentism*, the so-called events & entities that are wholly *Past* or wholly *Future* do not exist at all.

The (*A-theory*) *Presentism* contrasts with the (*A-theory*) *Growing Block Universe* & also contrast with the (*B-theory*) *Block Universe*, more usually called *Eternalism*, or more clearly called *4-Dimensionalism*. Cutting across both (*A-theory*) & (*B-theory*) we see that *Growing Block Universe* & *Eternalism*, respectively are the *Metaphysical* theories that extends to *Future* events. Referring back to the early centuries A.D., we saw that Augustine spoke of the *Present* “knife edge” between *Past* & *Future* which itself could not not contain any “extended” period of Time. Injecting that concept into pure *Presentism* (without a “growing”

Block of the Past) would dissolve Time as essentially un-real, according to the even more ancient doctrine of the “3-Times” described earlier.

But the “Father of Psychology” William James argued that conscious experience is naturally extended in Time, in that there is "the short duration of which we are immediately & incessantly sensible". With his own earlier form of *Presentism*, James further concurred that: "everything *Past* is unreal, everything *Future* is unreal, everything imagined, absent, or mental is unreal. Ultimately real is only the Present moment of physical “efficiency” which we would now call “efficacy”. The latter refers to the ability to participate on as a “cause” in Causation, Cause & Effect.

Calculus for Yogis, part 3

Previously we noted that the Derivative of a Variable raised to a higher order n where the Coefficient was say 5 would get a Coefficient of $5n$ & have the Variable brought down to $n-1$, as in 6 down to 5, & so on.

Thus the Derivative of $5x^6$, $= 6 \times 5 x^{6-1} = 30x^5$

This Power Rule, makes taking the Derivative of a Polynomial simple.

When several terms with Variables of various Powers are added together [*possibly to include minus signs*], we can take Derivative of the resulting "polynomial", term by term, separately. We can just add the Derivatives of the individual terms so that the Derivative,

$$\begin{aligned} d y / d x \text{ of } y &= 5x^6 - 6x^3 + 10x + 4 \text{ becomes:} \\ d y / d x &= 30x^5 - 18x^2 + 10 \end{aligned}$$

This additive simplicity, & that of the "Power-Rule" sketched out above, encourage us to stick with Polynomials in this elementary discussion. Some other kinds of functions can be represented as "series", which resemble Polynomials with an infinite number of terms. By taking the Derivative, or "differentiating" each term, we can explore the elementary Calculus of some other functions as well, such as the Exponential function & some Trigonometric functions.

Many of us know that π is a very special number. It's called a Transcendental number because it has a specific value, but the decimal representation goes on forever, with no final repetition of patterns in the numerals. So we can never really represent the entire decimal of π . But we know that it is "there somehow", a definite π that is the ratio of the Circumference of a circle to its Diameter. Now the Diameter is twice the Radius & the Radius is more useful in many discussions. So it's often said that instead of the Circumference being π times of Diameter, we say it's 2π times the Radius.

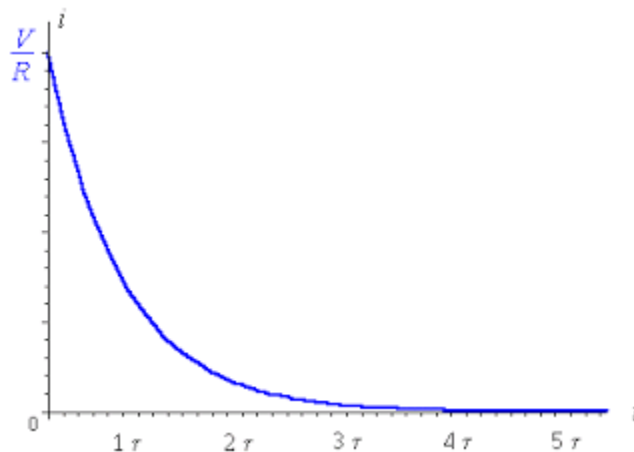
Like π then, there are other special Transcendental numbers, a couple of which we will be mentioning. The 1st of these other numbers is named for a mathematician named Euler whose name began with e & so it is called e . And e is also conveniently the 1st letter of the word "Exponent", so when we raise e to an Exponent, we actually call it the Exponential function as in e^x which is also designated $\text{Exp}(x)$. Convenient for our Analogies, "e" can also remind us of "Ego".

As we indicate below, the Exponential function $\text{Exp}(x) = e^x$, stands, as it were, "outside" of Time in that both the *Future projection* (Derivative) & the *Past memory* (Integral), in the simplest case, come back as e^x itself, identical without change. This compares with taking close-ups of graph of e^x .

First, we do well to consider the "diagonal" line: $y = x$, set to one square page such that the line spans the diagonal, from the lower left corner to the upper right corner. If we were to take a close-up of the line graph at any portion, & the blow that portion to fill another square page, the result will look the same, be the same as the original square page. Much the same be demonstrated for any other straight line, but such is not the same for almost all curves. But it is strikingly the case for e^x .

We can again set e^x or even e^t [t for time] similarly to one square page so that the "Past" tail arises from the lower left corner & approaches the upper right corner at the "Future" rising wall. For consistency of observation, if we "stand" in mid curve & look back on e^x or even e^t , toward the "Past", it always looks rather flat, like not much increase has occurred so far. If we look forward toward the "Future" rising wall it appears sheer & steep. "Past", it always looks rather flat, like not much increase has occurred so far.

If we were to take a close-up of e^x at any portion, & the blow that portion to fill another square page, the result will look the same, just like the straight line. This supports the earlier intuition & observation that the Exponential function stands "outside" of Time in that both the *Future Derivative* & the *Past Integral* come back as e^x itself.



$$e^{-x}$$

Essay outside of the NMT (No-Me Teaching) series 21

Some Ramana Maharshi quotes:

Even now you are that. You are not apart from it.

The degree of the absence of concepts is the measure of your progress towards Self-realization. But Self-Realization itself does not admit of progress, it is ever the same. The Self remains always in Realization. The obstacles are concepts. Progress is measured by removal of obstacles to understanding that Self is always realized. So thoughts must be checked by seeking to whom they arise. Go to their source & they will not arise.

When one daily practices more & more abiding in the heart, the Mind will become extremely pure due to the removal of its defects, & the practice will become so easy that the purified Mind will plunge into the heart as soon as the Inquiry is commenced.

When you enter the inner stillness of Being, the heart-going Mind is called the resting Mind.

When unity is replaced by a variety of perceived phenomena, it's called outgoing Mind.

Know that the Consciousness always shines as the formless Self, the true "I".

Your duty is to be, & not to be this or that.

All that is required to realize the Self is to be still.

The Self is not now understood to be Truth, the one Reality.

The Truth of your Self alone is worthy to be scrutinized & known. Taking it as the target of your attention, you should keenly seek to know it in your spiritual heart. This Knowledge of yourself will be revealed only to the Consciousness which is silent, clear, & free from the activity of the agitated & suffering Mind.

Whenever you are disturbed by thoughts you need merely withdraw within to the Self This is not concentration or destruction of the Mind but withdrawal into the Self.

The Mind, turned outwards, results in thoughts & objects. Turned inwards, it becomes itself the Self. To ask the Mind to kill the mind is like making the thief the policeman. He will go with you & pretend to catch the thief, but nothing will be gained.

So you must turn inward & see from where the Mind rises & then it will cease to exist.

The Mind is only a bundle of thoughts. How can you extinguish it by the thought of doing so, or by a desire ? Your thoughts & desires are part & parcel of the Mind. The Mind is simply enhanced by new thoughts rising up. Therefore it is foolish to attempt to kill the Mind by means of the Mind. The only way of doing it is to find its source & hold on to it. The Mind will then fade away of its own accord.

It is with the inward-going Mind that you eliminate the outward-going Mind. You do not set about saying there is a Mind & I'm going to kill it, but you seek the Source of the Mind. Then you will find that the Mind does not exist at all.

All that you need do is to find out the origin of the "I-thought" & abide there. Your efforts can extend only thus far. Then the Beyond will take care of itself.

The Ego-Self appears & disappears & is transitory, whereas the real Self is permanent.

You wrongly seem to identify the real Self with the Ego-Self. See if that mistake has come about. The Ego-Self does not exist at all.

To whom is the trouble ? The trouble also is imagined. Trouble & pleasure are only for the Ego.

Take care of yourself. Let the World take care of itself. See your Self. If you are the Body there is the gross World also. If you are spirit all is Spirit alone.

Do it yourself 1st then see if the question of others arises afterwards.

There is no goal to be reached, nothing to be attained. You are the Self. You exist always. No more can be predicated of the Self than that it exists.

Seeing God or the Self is only being the Self or yourself.

Seeing is being. You, being the Self, want to know how to attain the Self.

It is something like a man being somewhere & asking how many ways there are to reach the place & which is the best way for him. All that is required of you is to give up the thought that you are this Body & to give up all thoughts of the external things or the not-Self.

People say they aren't able to know the all pervading Self.

Even the smallest child says, "I exist. I do. This is mine."

Everyone understands that the thing "I" is always existent. Only when the "I" is there, is there feeling you are the Body.

Knowing one that is always "visible" is one's own Self, is it necessary to search with a light ? To say that we do not know the atma swarupa [the real nature of the Self] which is not different but which is in one's own Self is like saying, "I do not know myself."

Quantum Reality – Time 6 - metaphysical C:

Egocentric Presentism – other persons can be conscious, but their experiences are simply not present. Similarly, in related work, Hare argues for a theory of *Perspectival Realism* in which other perspectives do exist, but the present perspective has a defining intrinsic property. In one example that Hare uses to illustrate his theory, you learn that you are 1 of 2 people, named *A* & *B*, who have just been in a train crash; and that *A* is about to have incredibly painful surgery. You cannot remember your name. Naturally, you hope to be *B*. The point of the example is that you know everything relevant that there is to know about the objective world; all that is missing is your position in it, that is, whose experiences are present, *A*'s or *B*'s. This example is easily handled by egocentric *Presentism* because under this theory, the case where the present experiences are *A*'s is fundamentally different from the case where the present experiences are *B*'s. Hare points out that similar examples can be given to support theories like *Presentism* in the philosophy of time. *Perspectival Realism*, there is a defining intrinsic property that the things that are in perceptual awareness have. Consider seeing object *A* but not object *B*. Of course, we can say that the visual experience of *A* is present to you, and no visual experience of *B* is present to you. But, it can be argued, this misses the fact that the visual experience of *A* is simply present, not relative to anything. This is what *Perspectival Realism* attempts to capture, resulting in a weak version of metaphysical *Solipsism*.

Same type of argument is often used in the philosophy of time to support theories such as *Presentism*. Of course, we can say that *A* is happening on [insert today's date]. But, it can be argued, this misses the fact that *A* is simply happening (right now), not relative to anything.

Theory of Relativity: the conceptual Observer is at a *geometric point* in both Space & time at the *apex* of the "*light cone*" which observes events laid out in Time as well as Space. Different Observers can disagree on whether 2 events at different locations occurred simultaneously depending if the observers are in *relative motion*. This theory depends upon the idea of Time as an *extended thing* & has been confirmed by experiment, thus giving rise to a philosophical viewpoint known as *4-dimensionalism*. However, although the contents of an Observation are *time-extended*, the conceptual Observer, being a *geometric point* at the origin of the Light Cone, is not *extended* in Time or Space. This analysis contains

a *paradox* in which the conceptual Observer “contains nothing”, even though any real Observer would need to be the *extended* contents of an Observation to exist. This *paradox* is partially resolved in Relativity theory by defining a “*frame of reference*” to encompass the measuring *instruments* used by an Observer. This reduces the Time separation between *instruments* to a set of constant intervals.

Some of the difficulties & paradoxes of *Presentism* can be resolved by changing the normal view of Time as a “*container*” or thing unto itself & seeing Time as a *measure* of changing spatial relationships among objects; thus observers need not be *extended* in Time to exist & be aware, but rather they exist & the changes in internal *relationships* within the Observer can be measured by stable countable events.

According to the Growing Block Universe theory of Time (*or the growing block view*), the Past & Present exist & the Future does not exist. The Present is an *objective* property, to be compared with a “*moving spotlight*”. By the passage of Time more of the World comes into being, therefore the Block Universe is said to be growing. The Present is supposed to be the place where this is supposed to happen, a very *thin slice* of Space-Time, where more of Space-Time is coming into being.

The Growing Block View is an alternative to both *Eternalism* (according to which Past, Present, & Future all exist) & *Presentism* (according to which only the Present exists). It is held to be closer to common-sense intuitions than the alternatives.

Recently several philosophers have said that if the Growing Block View is correct we have to say that we don't know whether Now is Now. (The first occurrence of "Now" is an *indexical* & the 2nd occurrence of "Now" is the “*objective tensed property*.” The term implies the sentence: "This part of Space-Time has the property of being Present".) If people are talking in the Past, & at the same time thinking that “this” (their discussion) is occurring “Now”, the according to the Growing Block View, Tense is a real property of the World so their thought is about “Now” – they think, *tenselessly*, that their thought is occurring on the “edge of being” – their own *objective* Present. But we know they are wrong, because they are in the Past. They don't know that Now is Now. But how can we be sure we are not in the same position? Therefore we don't know whether Now is Now.

However, some have argued that there is an Ontological distinction between the Past & the Present. For instance, they argue that although there exists a Past, it is lifeless & inactive. Consciousness, as well as the Flow of Time is not active within the Past & can only occur at the boundary of the Block Universe in which the Present exists.

Eternalism is a philosophical approach to the Ontological nature of Time, which takes the view that all points in Time are equally "real", as opposed to the *Presentist* idea that only the Present is real. Modern advocates often take inspiration from the way Time is modeled as a

Space-Time dimension in *SR (Special-Relativity)*, giving Time an Ontology (*property of existence*) similar to that of Space. But the basic idea of *Eternalism* dates back at least to McTaggart's "B-theory" of "untensed time".

This would mean that Time is just another dimension, that Future events are "already there", & that there is no *objective* Flow of Time. It is sometimes referred to as the "Block Time" or "Block Universe" theory due to its description of Space-Time as an unchanging 4–*dimensional* "Block", as opposed to the view of the World as a simply being a 3–*dimensional* Space modulated by the passage of Time.

Conventionally, Time is divided into three distinct regions; the "Past", the "Present", & the "Future". Using that *Representational* model, the Past is generally seen as being immutably fixed, & the Future as undefined & nebulous. As Time passes, the *moment* that was once the Present becomes part of the Past; & Part of the future, in turn, becomes the new Present. In this way, Time is said to *pass*, with a distinct present moment "moving" forward into the Future & leaving the Past behind.

Within this intuitive understanding of Time is the philosophy of *Presentism*, which argues that only the Present exists. It does not travel forward through an environment of Time, moving from a real point in the Past & toward a real point in the Future. Instead, the Present simply changes. The Past & Future do not exist & are only concepts used to describe the real, isolated, & changing present.

This conventional model presents a number of difficult philosophical problems, & seems difficult to reconcile with currently accepted scientific theories such as *SR* the theory of *Special-Relativity*.

Special-Relativity suggests that the concept of *simultaneity* is not universal. Observers in different *frames of reference* can have different perceptions of whether a given pair of events happened at the same time or at different times, with there being no physical basis for preferring one frame's judgments over another's (*though in a case where one event A happens in the Past Light Cone of another event B*), all frames will agree that A happened in the Past of B. So, in Special Relativity there can be no physical basis for picking out a unique set of events that are all happening simultaneously in "the Present".

Presentists have responded in the way that a *Presentist* could deny Naturalism. Such denial could take different forms. One could, claim that *SR* is not a theory about Time but about something else instead. Alternatively, one could retort by accepting that *SR* speaks to the *geometry* of space-time but reject that this has any Ontological import. Then, a Presentist might reject *SR-Realism*, simply asserting that *SR* is not approximately true of the World. Also, considerations from Quantum Mechanics can be invoked in an attempt to establish that *SR* is false or incomplete insofar as it lacks an absolute, privileged Frame of Reference.

Presentists might simply accept that *SR* offers a perfectly empirically adequate theory, but to insist that Absolute Simultaneity still exists. It is just that we cannot possibly detect the privileged Frame of Reference which determines the Present. In other words, Absolute Simultaneity is not empirically accessible. Metaphysics fully relies on postulated extra-structure that can't even in principle be observed. It violates Ockham's Razor so that the move cannot be justified by putting some *post-verificationist* Philosophy of Science on one's flag.

However, there are some, argued that it is possible to accept the physical predictions of Special Relativity while adopting an alternative interpretation of the theory in which there is a single privileged Frame whose judgments about Length, Time, & Simultaneity are the "true" ones, even though there would be absolutely no *empirical* way to distinguish this Frame from other frames, & no real experience could identify it.

When appealing to findings from empirically well-grounded disciplines, philosophers face a strong temptation to overstate their case – especially if their philosophical opponents can be relied on to be relatively innocent of new developments in the relevant science. I fear that some B-theorists have succumbed to the temptation, judging by the relish with which they often pronounce a verdict based on Relativity. They can practically hear the crunch of the lowly metaphysician's armor giving way, as they bring the full force of incontrovertible physical fact down upon our A-theoretically-addled heads.

But what actually hits us, and how hard is the blow? *SR* is false; *GR*'s future is highly uncertain; and the *Presentist*'s conflict with either version of Relativity is shallow, since the *Presentist*'s manifold can satisfy the same geometrical description as a B-theorist's manifold, and afford explanations of all the same phenomena in precisely the same style. In these circumstances, how could appeal to *SR* or *GR* justify the frequent announcements that the A-theory–B-theory dispute has been “settled by physics, not philosophy”?

While the present is intuitively understood as the object that moves through the environment of time, it is common to also describe time as an object that moves, in the same way that a passenger on a train perceives the environment passing by. This perception of the passage or flow of time can be confused with the previous idea of the present moving through time, leading to the misunderstanding that time is moving through time, i.e., that it is moving through itself. This illogical premise can lead to circular questions asking how fast time travels per unit of Time.

The concept of "*Time passing*" can be considered to be internally inconsistent, by asking "how much time goes by in an hour?" The question "*how fast does Time pass*" seems to have no satisfactory answer, in which answers such as "a second per second" would be, as some would argue, circular and thus false. In addition, even if we do accept the above answer, then

the statement "a second per second" can be expressed as a fraction which is always equal to "one". But this "one" has no meaning beyond being a number and is thus also the wrong kind of answer. Therefore, the argument goes, the rate of the passage of Time is nonsensical.

Calculus for Yogis, part 4

There are many ways to approach e but one easy way is to look at how simple increase occurs, how, as afore mentioned above, the Derivative, the rate of growth dy/dx for e^x happens to numerically equal the value of $y = e^x$ itself. This describes that common situation of "*the more you got, the more you get.*" Wealth grows faster & faster the larger the amount or principal grows as e^t also.

A savings account, compounded continuously, grows that e^t way which Einstein called "the most amazing thing in the Universe", which was kind of a joke because he was privy to many amazing things about the Universe. Some say that we "cannot get our heads around" the Exponential function because a Brain–Mind neuro-circuit "functions" in Exponential functions & like an eyeball, cannot see itself, but only a reflection or photo of an eyeball.

Weatherby way out on the high steep artwork early on in the flat part and reset the scale we get the same appearance so it's always rising the same way but it always looks like from your present point that the pass was very flat and slow in the future getting incredibly steep this is the rise in CO2 in the atmosphere the rising temperature of the planet in average temperature of the planet in climate change the rising population the rising various pollutants and so on as mentioned increasing bank accounts rise that way and decreasing bank accounts descend according to E to the X into the minor sex which is also the dissent of radioactivity over time in a sample of radioactive material or if that is a pure element or pure isotope

So if we know that dy/dx happens to be numerically equal y when $y = e^x$ we must wonder about this curious number e which, as it happens can be determined in various mysterious ways, such as the following:

$$e = \lim_{x \Rightarrow \infty} (1 + 1/x)^x$$

Both a "limit", like the preceding, & infinite series to be soon mentioned, "converge", rather than "blow up", for x smaller than 1. When we evaluate e itself by setting $x = 1$ in e^x , we get: $e \sim 2.72$, $e = 2.718281828 \dots$ and then no other repetition occurs right away. But that early repetition of 18281828 allows us to actually remember e to great accuracy because it's got that 18281828 pattern.

The succeeding numbers vary and are not generally repeating in such a Transcendental number where the number the different numerals goes on forever. And yet we can say the

number in itself has a distinct value, as in saying that e is the value of parenthesis one plus one over x , all to the x in the Limit that x goes to Infinity. Now that's all more abstract than "*the more you got, the more you get.*" & that the rate of increase numerically equals the value of the function itself.

Then optional notation to augment the Infinite series – Polynomial approach that here follows will be veritably "opaque" to the uninitiated but it deserves mention because of its elegance. The "factorial" for 5, for instance, is $5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$. That same kind of "count down" works generally, with the quirky Zero case here being:

$$0! = 1! = 1$$

Much as for the Zeroth Power, the initiated might appreciate that for $m = n$:

$$1 = m! / (m - n)! = n! / (n - n)! = n! / (0)! = n! / 1 = n!$$

This behavior or definition for $0!$ is necessary for calculating Probability with factorials.

The "factorial" is about the most rapidly growing function of an Integer, & it simplifies even the first few terms of an Infinite series, & more so a generic term.

That's the easy part, because the other useful optional notation to augment the Infinite series – Polynomial approach for use with the generic term is a "Summation" indicated by "Sigma", the Greek capital letter "S", namely Σ :

$$\sum_{n=0}^4 n = 4 + 3 + 2 + 1 = 10. \quad [\text{like it or not, take it or not – optional}]$$

Both a "limit" above & the Infinite series to be soon mentioned, "converge", rather than "blow up", for x smaller than 1. In the case of infinite series, an approximate value results after a limited number of terms.

For example & for practice, one Series of simple terms suggests modification of the shortcut approach to estimating "uncertainties" in Arithmetic.

$$1/(1-x) = 1 + x + x^2 + x^3 + x^4 + \dots \quad \text{for small } x$$

The same pattern holds for decimals. but is perhaps most easily seen for fractions of .99 & 1.01. The approximate rule for "uncertainties" states that we keep the same number of "significant figures" as in $1.0/.99 \sim 1.0$ whereas $1.0/.99 \sim 1.01$ is more meaningful,

even though a ratio of 2 figures goes to an approximation with 3 figures. But this treatment follows:

$$1/.99 = 1/(1 - .01) \sim 1 + .01 + .0001 \sim 1 + .01 = 1.01$$

Likewise, for a fraction of 1.01:

Correspondingly, the "same number of significant figures" yields as in $1.00/1.01 \sim .990$ whereas $1.0/1.01 \sim .99$ is more meaningful, even though a ratio of 3 figures goes to an approximation with 2 figures. But again, this treatment follows:

$$1/(1 + x) = 1 - x + x^2 - x^3 + x^4 \dots \text{ for small } x$$

$$1/1.01 = 1/(1 + .01) \sim 1 - .01 + .0001 \sim 1 - .01 = .99$$

Aside from the series treatment, the consistency in both cases follows a 1% "uncertainty" & % –uncertainty is the truer rule.

In a similar vein, we can familiarize ourselves with Polynomial series with 2 similar approximations:

$$1/(1 - x)^2 = 1 + 2x + 3x^2 + 4x^3 + 5x^4 \dots \text{ for small } x \text{ \& }$$

$$1/ (.99)^2 = 1/(1 - .01)^2 \sim 1 + .02 = 1.02$$

$$1/ (.99)^3 = 1/(1 - x)^3 = 1 + 3x + 6x^2 + 10x^3 + 15x^4 \text{ for small } x \text{ \& }$$

$$1/(1 - .01)^3 \sim 1 + .03 = 1$$

To indicate these 2 Polynomial series in the above-mentioned "Summation" "Sigma" notation:

$$1/(1 - x) = \sum_{n=0}^{\infty} x^n / n = 1 + x + x^2 + x^3 + x^4 \dots \text{ for small } x$$

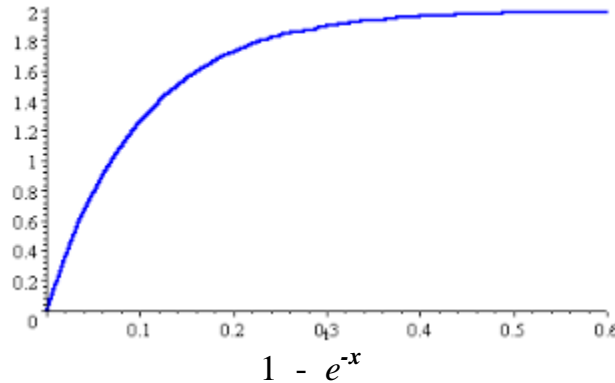
$$1/(1 + x) = - \sum_{n=0}^{\infty} x^n / n = -x - x^2/2 - x^3/3 - x^4/4 \dots \text{ for small } x$$

$$1/(1 - x)^2 = \sum_{n=1}^{\infty} n x^{n-1} = 1 + 2x + 3x^2 + 4x^3 + 5x^4 \dots \text{ for small } x$$

$$\frac{1}{(1-x)^3} = \frac{1}{2} \sum_{n=1}^{\infty} (n-1)n x^{n-2} = 1 + 3x + 6x^2 + 10x^3 + 15x^4 \dots \text{small } x$$

$$= 0 + \frac{1}{2} \times 1 \times 2 \times x^0 + \frac{1}{2} \times 2 \times 3 \times x^1$$

$$+ \frac{1}{2} \times 3 \times 4 \times x^2 + \frac{1}{2} \times 4 \times 5 \times x^3 + \frac{1}{2} \times 5 \times 6 \times x^4$$



Essay outside of the NMT (No-Me Teaching) series 22

Some Ramana Maharshi quotes:

The nature of bondage is merely the rising, ruinous thought "I am different from the Reality." Since one surely cannot remain separate from the Reality, reject that thought whenever it rises.

You speak of memory & oblivion of the fullness of the Self. Oblivion & memory are only thought-forms. They will alternate so long as there are thoughts. But Reality lies beyond these. Memory or oblivion must be dependent on something. That something must be foreign to the Self as well, otherwise there would not be oblivion. That upon which memory & oblivion depend is the idea of the individual self.

When one looks for it, this individual "I" is not found because it is not real. Hence this "I" is synonymous with Illusion or Ignorance [maya, avidya, or ajnana].

To know that there never was Ignorance is the goal of all the spiritual teachings. Ignorance must be of one who is aware. Awareness is jnana. Jnana is eternal & natural, ajnana is unnatural & unreal.

In Deep Sleep man is devoid of possessions, including his own Body.

Instead of being unhappy he is quite happy. Everyone desires to sleep soundly.

The conclusion is that Happiness is inherent in man & is not due to external causes.

One must realize the Self in order to open the store of unalloyed Happiness.

If a man thinks that his Happiness is due to external causes & his possessions, it is reasonable to conclude that his Happiness must increase with the increase of possessions & diminish in proportion to their diminution. Therefore if he is devoid of possessions, his Happiness should be nil.

What is the real experience of man ? Does it conform to this view ?

Calculus for Yogis, part 5

More interesting is a Series representation of the Exponential function with e . Factorial notation helps to reveal the wondrous pattern in the Series representation of e^x :

$$e^x = \sum_{n=0}^{\infty} x^n / n! = 1 + x + x^2/2 + x^3/6 + x^4/24 \dots \text{small } x$$

$$= x^0/0! + x^1/1! + x^2/2 \times 1 + x^3/3 \times 2 \times 1 + x^4/4 \times 3 \times 2 \times 1$$

Such a Series allows easily estimating $e = 2.718281828 \dots$ that Transcendental number.

Having represented the Exponential function in this series sort of Polynomial form, we can, using the Power Rule as above, readily take Derivative of each term in turn:

$$d y / d x \text{ of: } y = 1, \quad = 0$$

$$y = x, \quad = 1$$

$$y = x^2/2, \quad = x$$

$$y = x^3/6, \quad = x^2/2$$

$$y = x^4/24, \quad = x^3/6$$

& term for term, we get back each prior term again. For an infinite series, being a step behind won't matter. In all then, $d y / d x$ of: $e^x = e^x$.

So this Transcendental number e is a "natural" base for the Exponential function just because the Derivative, the rate of increase, goes up exactly with the value of the function. So this Transcendental number e is a "natural" base for the Exponential function since it

goes up exactly with function itself, in the sense of "the more you got, the more you get." Aside from a constant rate of increase, this "more you got, the more you get" rate of increase is one of the simplest & most "natural". This also offers an entry point for looking at that "inverse" of the Derivative, the "Integral", by first guessing that it must "work both ways" for the Exponential function. If Derivative there gives us the Exponential function back again, then *vice versa* must also work, so the Exponential function is also its own Integral as well as its own Derivative; & also we can take the term by term process above & reverse each of those for Polynomial terms.

If dy/dx of: $y = 1$, $= 0$, then the indefinite Integral of Zero is a Constant, so then a Constant can be added to every indefinite Integral since Zero is just "nothing". Next we see that Integral of 1 is x ; that the Integral of x is $x^2/2$; that the Integral of x^2 is $x^3/3$; that the Integral of x^3 is $x^4/4$. Thus the "inverse" of the Derivative for Polynomial terms, the Integral is taken by *raising the Power & dividing by that new Power [in contrast to multiplying by the original Power & lowering that Power.]*

In considering the "inverse" of the Derivative, namely the "Integral", we happened upon some *inverse* relationships for simple Polynomial terms & their components, such as: Division being the *inverse* of Multiplying; Subtracting being the *inverse* of Adding; *raising* a Power being the *inverse* of *lowering* a Power.

Well the corresponding though more complicated *inverse* of the Exponential function was historically called the "Logarithm". In shorthand, $\log x$ is the *inverse* of 10^x while *inverse* of the Exponential function was historically called the "Logarithm". In shorthand, $\log x$ is the *inverse* of 10^x the *inverse* e^x was dubbed $\ln x$, with the "n" for "natural". Some simple Series result for $\ln x$, such as:

$$\ln(1-x) = - \sum_{n=0}^{\infty} x^{n+1}/(n+1) = -x - x^2/2 - x^3/3 - x^4/4 \dots \text{ for small } x$$

Furthermore, the Exponential function for "complex" numbers [*to be mentioned later*] combines the simplest Trigonometric ["wave"] functions $\sin x$ & $\cos x$ so that series representation for each use alternating *odd* & *even* terms from the Series representation of the Exponential function. Thus:

$$\sin x = \sum_{n=0}^{\infty} (-1)^n x^{2n+1}/(2n+1)! = x - x^3/3! + x^5/5! - x^7/7! \dots$$

$$= x - x^3/6 + x^5/120 - x^7/5040 \dots$$

$$\cos x = \sum_{n=0}^{\infty} (-1)^n x^{2n}/2n! = 1 - x^2/2! + x^4/4! - x^6/6! \dots$$

$$n = 0 \qquad \qquad \qquad = 1 - x^2/2 + x^4/24 - x^6/720 \dots$$

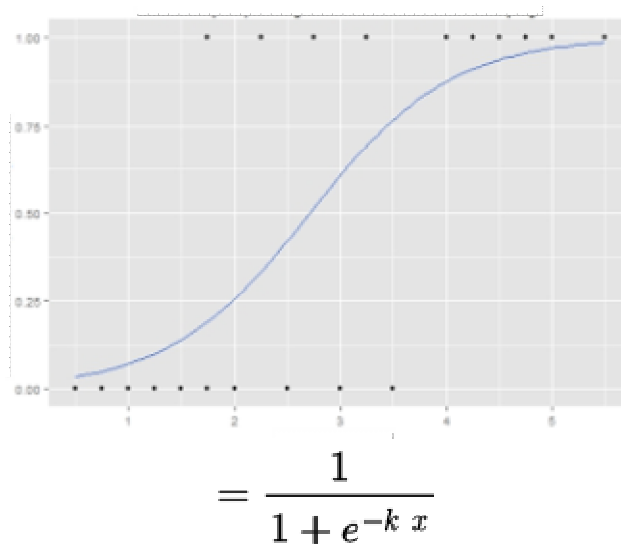
Taking the Derivative of each term in turn can show that:

$$d y / d x \text{ of: } y = \sin x, \quad = \cos x$$

$$d y / d x \text{ of: } y = \cos x, \quad = -\sin x$$

The corresponding indefinite Integrals, respectively are: $-\cos x$ & $\sin x$

This can again be show by taking the Integral of each term.



Algebra of Logistic Curve

Essay outside of the NMT (No-Me Teaching) series 23

Some Ramana Maharshi quotes:

All that you need do is to find out the origin of the "I-thought" & abide there. Your efforts can extend only thus far. Then the Beyond will take care of itself

The Ego-Self appears & disappears & is transitory, whereas the real Self is permanent. You wrongly seem to identify the real Self with the Ego-Self. See if that mistake has come about. The Ego-Self does not exist at all.

To whom is the trouble ? The trouble also is imagined. Trouble & pleasure are only for the Ego.

Take care of yourself. Let the World take care of itself. See your Self. If you are the Body there is the gross World also. If you are spirit all is Spirit alone.

Do it yourself 1st then see if the question of others arises afterwards.

There is no goal to be reached, nothing to be attained. You are the Self. You exist always.

No more can be predicated of the Self than that it exists.

Seeing God or the Self is only being the Self or yourself.

Seeing is being. You, being the Self, want to know how to attain the Self.

It is something like a man being somewhere & asking how many ways there are to reach the place & which is the best way for him. All that is required of you is to give up the thought that you are this Body & to give up all thoughts of the external things or the not-Self.

People say they aren't able to know the all pervading Self.

Even the smallest child says, "I exist. I do. This is mine."

Everyone understands that the thing "I" is always existent. Only when the "I" is there, is there feeling you are the Body.

Knowing one that is always "visible" is one's own Self, is it necessary to search with a light ? To say that we do not know the atma swarupa [the real nature of the Self] which is not different but which is in one's own Self is like saying, "I do not know myself."

The nature of bondage is merely the rising, ruinous thought "I am different from the Reality." Since one surely cannot remain separate from the Reality, reject that thought whenever it rises.

You speak of memory & oblivion of the fullness of the Self. Oblivion & memory are only thought-forms. They will alternate so long as there are thoughts. But Reality lies beyond these. Memory or oblivion must be dependent on something. That something must be foreign to the Self as well, otherwise there would not be oblivion. That upon which memory & oblivion depend is the idea of the individual self.

When one looks for it, this individual "I" is not found because it is not real. Hence this "I" is synonymous with Illusion or Ignorance [maya_ , or ajnana].

To know that there never was Ignorance is the goal of all the spiritual teachings. Ignorance must be of one who is aware. Awareness is jnana. Jnana is eternal & natural, ajnana is unnatural & unreal.

*In Deep Sleep man is devoid of possessions, including his own Body.
Instead of being unhappy he is quite happy. Everyone desires to sleep soundly.*

The conclusion is that Happiness is inherent in man & is not due to external causes.

One must realize the Self in order to open the store of unalloyed Happiness.

If a man thinks that his Happiness is due to external causes & his possessions, it is reasonable to conclude that his Happiness must increase with the increase of possessions & diminish in proportion to their diminution. Therefore if he is devoid of possessions, his Happiness should be nil.

What is the real experience of man ? Does it conform to this view ?

Quantum Reality 5:

"In a few years, all the great physical constants will have been approximately estimated, & the only occupation which will then be left to the men of Science will be to carry these measurement to another place of decimals."
James Clerk Maxwell 1871
[less than 3 decades before Max Planck's announcement of the "Quantum"]

Albert Einstein derived important new physical concepts from pure Mathematics, & yet as a *Realist* he & his World-wide *Realist* admirers (*among others*) never doubted that the value of Relativity theories lies in their description of a *Mind-Independent Reality*. Somewhat the same (*to a less mathematical degree*) could be said for the breakthrough Physics of Newton & Galileo before him. Herein lies a contradiction explicated in the very heart of Nobel laureate. Eugene Wigner's "*Unreasonable Effectiveness of Mathematics in the Natural Sciences*" which spoke both to *Scientific Realism* & to the nature of Mathematics: "It is important to point out that the mathematical formulation of the physicist's often crude experience leads in an *uncanny* number of cases to an amazingly accurate description of a large class of phenomena." The Law of Gravity used to model freely falling bodies on the surface of the Earth, for instance, was extended on the basis of "very scanty observations" to describe the motion of the planets, where it "has proved accurate beyond all reasonable expectations."

Pointing to James Clerk Maxwell's equations for elementary Electrical & Magnetic phenomena inspired Maxwell's concept of EMR *electro-magnetic* radiation, starting with visible Light & continuing to describe then-recently discovered radio waves, etc. Wigner characterizes such examples as illustrating that "the enormous usefulness of mathematics in

the natural sciences is something bordering on the mysterious & that there is no rational explanation for it."

According to Wigner, these & numerous other examples (*including String Theory*) cited by himself & others "put a heavy strain on our faith in our theories & on our belief in the Reality of the concepts which we form. It would give us a deep sense of frustration in our search for what I called the *Ultimate Truth*. The reason that such a situation is conceivable is that, fundamentally, *we do not know why our theories work so well*. Hence, their accuracy may not prove their truth & consistency."

Richard Hamming, Mathematician & Computer Science pioneer, agreed with Wigner to the extent that: "*humans see what they look for*"; "*humans create* [like vectors, tensors, quaternions, etc.] & *select the Mathematics that fit a situation*"; "*Mathematics addresses only a part of human experience*"; & "*Evolution has primed humans to think mathematically*". He further analyzed the pivotal work of Galileo as being, not an experimentalist revolution beyond Aristotle's often-faulty arm-chair physics. Rather Galileo's revolution lie in experimentally testing & conforming his own more-refined arm-chair physics.

Somewhat similarly, Newton's "brilliance" lies in proposing linear proportions (*to 1st order*) for contributing factors in Gravity & Force in general, such as Mass (*of each body for General Gravitation*) & proportionality constants (*like the Gravitational constant & Earth-surface Gravity acceleration*). The Inverse Square with distance derives, for instance, from a sphere's surface area $4\pi r^2$ for Conservation of Energy in an isotropic force in 3-D Space. Heisenberg's mysterious Uncertainty Principle derives from properties of the Fourier integrals used in the Mathematical formulation of Quantum Mechanics.

Sir Arthur Eddington, who experimentally verified General Relativity, suggested the parable: "Some men went fishing in the sea with a net, & upon examining what they caught they concluded that there was a minimum size to the fish in the sea."

Some more contemporary Physicists, like Max Tegmark, actually go further when they attempt to reconcile such issues with the *Realism* they still adhere to. Tegmark does not credit the human Mind with imposing Mathematics *onto* the Universe, but rather claims that the Universe is not mental, but is *Mathematical* in nature. Thus humans only re-discover that inherent *Realist* structure. Similarly, but rather than in Math, Philosopher of Mathematics, Ivor Grattan-Guinness, sees the close correspondence between *Realism* & Mathematical theory in the *linguistic* nature & structure of Analogy, Generalization, & Metaphor. Our typical conjectures about correspondences between a Model & the Reality, between the Map & the Territory, make the form-fitting of Mathematics to Physics inevitable.

We rejoice (actually we are relieved of a need) when, just as if it were a lucky chance favoring our aim, we do find such systematic unity among merely empirical laws.

Immanuel Kant

The most incomprehensible thing about the Universe is that it is comprehensible. How can it be that Mathematics, being after all a product of human thought which is independent of experience, is so admirably appropriate to the objects of Reality? As far as the laws of Mathematics refer to Reality, they are not certain; and as far as they are certain, they do not refer to Reality.

Albert Einstein

Physics is Mathematical not because we know so much about the physical World, but because we know so little; it is only its Mathematical properties that we can discover.

Bertrand Russell

There is only one thing which is more unreasonable than the unreasonable effectiveness of Mathematics in Physics, and this is the unreasonable ineffectiveness of Mathematics in Biology.

Israel Gelfand

Some more selected verses from the Ramana Maharshi disciple Master Nome:

If one is immersed in *Samsara*, the repetitive Cycle of Illusion, Birth, & Deaths, filled with Suffering, the way to liberate oneself is by Self-Knowledge. Liberation, which is the goal of spiritual practice, is one's own if, inquiring to know the Self, he discards all notions of "me" & "mine" attains complete certitude as to the Space-like nature of Reality, & "abides" devoid of physical & mental forms, & the assumption of an Ego-entity.

If the Self would change states, such as states of Ignorance & Knowledge, of Bondage & Liberation, that Self would be destructible, & Liberation itself would be artificial or unreal. Liberation is not a change of state from one state into another state. It is not reasonable to imagine a separation & later union in relation to the Self, for then both would be transitory. Transience cannot be attributed to the Real, just as the unreal cannot be attributed to the Real, or the dual to the Non-Dual.

Since there truly can be neither later union nor prior separation, Liberation cannot consist of an Individual entering into *Brahman* or *Brahman* coming to the Individual. The True Nature of the Self is never destroyed, is changeless, is uncaused, & cannot be obtained or lost. Any new appearance, or coming into being of any state would be the Effect of a precedent Cause. Such would be changeful, transitory, & not self-existent. Such cannot be permanent Liberation. Self-Knowledge alone is Liberation. Knowing the Self to be oneself is the greatest attainment. To wrongly assume the non-Self to be the Self is Ignorance.

The removal of the superimposed mis-conceptions of what the Self alone is constitutes the path to Liberation. No other view is reasonable, since such always involves some Dualism, some belief in an existent individual experiencer & a self-existent *objective* thing. There is also then the conception that Reality becomes other than what it is, & that the unreal actually comes to be. Liberation cannot be a change of condition, because such involves mutability & thus destructibility, parts or divisions, & a change in its nature.

Any belief that superimposition occurs on some substrate of non-existence, or that belief that Illusion can actually create itself, or that there is no Absolute Self, all such beliefs should be abandoned. This is because of the existence of Being itself is irrefutable. Furthermore, it is not reasonable that something could come out of "nothing". Superimposition (*in Illusion*) occurs on some real thing, & this for "someone" who knows the Ignorance. What is it Ignorance of ? And who knows is the Ignorance for ? If one so inquires, one find that Being alone exists, Consciousness alone exists.

Calculus for Yogis, part 7

Now in a certain version of e^x in what's called "complex space" describes a Circle even though we don't see that in ordinary x & y coordinates, where we see a gradually rising & then rapidly rising curve. The special "complex space" version is graphed as a Circle, often with Radius 1. If we look, for instance, at a Radius heading to the upper right direction, & at the point where it intersects the Circumference, we can drop a Vertical line & create a Right Triangle that includes as a Base, the x axis.

The angle that the Radius line made with that x-axis Base can be called Angle A . To some extent Angle A is characterized by the ratio of that Vertical line length to the length of X axis Base. This "Opposite" side over "Adjacent" side ratio, called the Tangent of A is one of the ways to calculate the Slope, in fact the Derivative of the slanting line of the Radius. This tangent of a , abbreviated as " $\tan A$ " & can in turn be considered the ratio of 2 other functions of A .

The vertical line for this unit Radius Circle equals has a length equal to Sine A , abbreviated as " $\sin A$ ". The portion of the x-axis making up the Base has a length equal to "Cosine A ".

[If the radius were more or less than 1, that proportion would be multiplying these functions, $\sin A$ & $\cos A$, but have no effect on $\tan A$.]

So whereas $\tan A$ is definable as "Opposite over Adjacent", $\sin A$ can be defined as "Opposite side over the Radius", the hypotenuse. That $= 1$ in this case. The $\cos A$ can be just found as the "Adjacent side length over the radius", again just equal to that length because the Radius $= 1$.

More meaningful than defining Sine & Cosine in terms of right triangles is to consider them as the Coordinates of that point of intersection of the Radius & the unit Circle formed by a *complex space* version of e^x .

In that sense some of this complicated version of e^x is composed of the Sine of x & Cosine x . We see this showing up in the (*Power Series*) Polynomial Infinite Series for $\sin x$ & $\cos x$.

Recall that:

$$e^x = \sum_{n=0}^{\infty} x^n / n! = 1 + x + x^2/2! + x^3/3! + \dots$$

& now we compare that to:

$$\sin x = \sum_{n=0}^{\infty} (-1)^n x^{2n+1} / (2n+1)! = x - x^3/3! + x^5/5! - x^7/7! \dots$$

$$\cos x = \sum_{n=0}^{\infty} (-1)^n x^{2n} / 2n! = 1 - x^2/2! + x^4/4! - x^6/6! \dots$$

Again, the alternating Minus signs arise out of the "complex space" relationship.

Thus we reduce more complicated Exponential & Trigonometric functions to more ordinary Polynomial terms & compare the Polynomial series for e^x with the Polynomial series for $\sin x$ & $\cos x$ because we know how to take the Derivative of those terms.

We previously took the Derivative of that expression for e^x , term by term, to show that the Derivative of each of terms numerically goes back to, is equal to our initial e^x .

Doing the same for $\sin x$ & $\cos x$, we find that the Derivative each of terms goes back to terms of the other Series, $\sin x$ to $\cos x$, & *vice versa*. except that the Minus signs are reversed in the 2nd case. That is, the exercise shows that: the Derivative of $\sin x$ is = $\cos x$, & the Derivative of $\cos x$ is = $-\sin x$.

We saw that we can look at the *inverse* of the Derivative, in a matter speaking, which is called the Integral, with the so-called "indefinite" Integral. We truly have that inverse to within a added constant, leaving that added constant out, or making it be a 0, Then we can treat the Indefinite Integral as if it was the *inverse* of the Derivative.

So looking at a couple of Polynomials like $7x^2 + 4x + 3$, we saw that the Derivative is $14x + 4$, & for Integral we go the other way to: $\frac{7}{3}x^3 + \frac{4}{2}x + 3x + \text{a constant}$.

Up until now we delayed introducing any version of the symbol for the integral because it's unduly strange looking, scary, and off putting to the uninitiated. But will simplify it by saying that the symbol is based on a big "S". In fact since it's a Roman alphabet "S", in a way. it's less exotic than the Greek capital "S", Sigma that we saw for a generic term representation of an Infinite Series. In any case, that statement just above can be rewritten symbolically as:

$$d/dx [7x^2 + 4x + 3] = 14x + 4 \quad \text{(Derivative)} \quad \&$$

$$\int [7x^2 + 4x + 3] dx = \frac{7}{3}x^3 + \frac{4}{2}x + 3x + \text{a constant} \quad \text{(Integral)}$$

The Analogy we drew was that the Derivative is the *projected* Perspective toward Happiness, viewing toward the estimated Future, based on the immediate past average; & the Integral is an accumulated *memory* or record by which we define Reality & Identity, instead of the Happiness. Looking at these rather complex looking structures created on paper, we can so peak at the Mind, much as elsewhere we compare the Mind to Mathematical

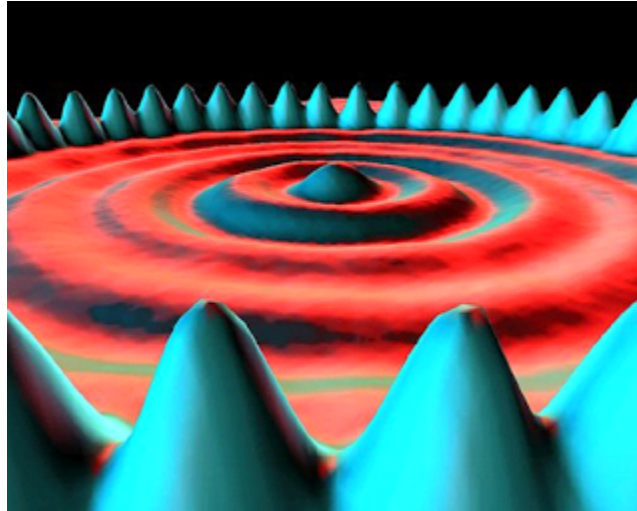
Coordinate Spaces. Math mirrors Mind.

Now there are special reasons for seemingly idle curiosity about $\sin x$ & $\cos x$. For one thing, these 2 functions are the building blocks of the many "wave" phenomena that we see in the Sciences. Back in the area of Mathematics, but Mathematics very applicable to Science, the $\sin x$ & $\cos x$ are also building blocks for the Fourier transforms. Fourier transforms & Laplace transforms, Quantum Mechanical Correlation, & similar topics will also be introduced by taking a closer look at the Integral in general.

Derivatives & Integrals can often be determined by systematic rules, like the Power Rule such as is the case for Polynomials. But in other cases when we take the Integral, solving is more of an art form, Detective intuition, trial & error, & so forth yield some basic processes, one being Integration by Parts. We pause in our discussion to look at Integration by parts because it will serve as a foundation for the idea of a Transform.

What we will see is actually closer in form to Conjugate Variables in Quantum Mechanics, which are the basis for the Heisenberg Uncertainty Principle. Quantum Mechanics also uses the Fourier transform to move from ordinary Distance Space to a Transform of that, called Momentum Space. And so with these motivations we will look at Integration by Parts.

Essay outside of the NMT (No-Me Teaching) series 24



Some Ramana Maharshi quotes:

In Non-duality, Meditation may be regarded as by the Self, for there is no other Knower, & upon the Self, since there is no Object of the Meditation. In Meditation upon Self-Knowledge one cannot stand apart from the Self to contemplate upon Self-Knowledge.

Knowing the Self is being the Self, & Being means Existence, one's own Existence. No one denies one's Existence any more than one denies one's eyes, although one cannot see them

The trouble lies with your desire to objectify the Self, in the same way as you objectify your eyes when you place a mirror before them.

You have been so accustomed to objectivity that you have lost the knowledge of yourself, simply because the Self cannot be objectified.

Who is to know the Self? Can the insentient Body know it?

All the time you speak & think of your "I", yet when questioned you deny knowledge of it.

You are the Self, yet you ask how to know the Self.

The many objective differences are not real but are mere superimpositions on Self, which is of nature of True Knowledge.

If the idea "I am the Body" is accepted, selves are multiple.

The state in which this "I am the Body" idea vanishes is the Self since in that state there are no other objects.

Since the Body itself does not exist in the natural outlook of the real Self, but only in the extroverted outlook of the Mind which is deluded by the power of Illusion, to call Self, the Space of Consciousness, dehi [the possessor of the Body, lit: cremation fuel] is wrong. The World does not exist without the Body, the Body never exists without the Mind, the Mind never exists without Consciousness, & Consciousness never exists without Reality. For the wise one who has known Self by diving within himself, there is nothing other than Self to be known.

Since the Ego which identifies the Body as "I" has perished, the wise one is the formless Existence-Consciousness.

The jnani knows he is the Self & that nothing, neither his Body nor anything else, exists but the Self.

What difference could presence or absence of a Body make ?

Quantum Reality 6:

In 1927, at a gathering of physicists in Brussels, Belgium, the Quantum Mechanics discoveries were hashed out, & a consensus emerged about how to interpret the experimental results. The consensus interpretation is called the Copenhagen interpretation, because it was primarily developed by Niels Bohr & his colleagues at his institute in Copenhagen, Denmark. The scientific consensus that developed in 1927 did not make much sense to the general public in 1927, & it does not make much sense today. Nevertheless, it was & remains the standard "orthodox" interpretation of Quantum Mechanics in the scientific community, & it has withstood challenge after challenge from those whose main objection to it is that it does not make much sense.

"The most important fundamental laws & facts of Physical Science have all been discovered, & these are now so firmly established that the possibility of their ever being supplemented in consequence of new discoveries is exceedingly remote." 1903, 1st American Nobel Prizewinner, Albert Michelson, whose *Ether* experiment with Morley toppled Newtonian Physics & inspired Einstein's Special Relativity.

The older Cartesian Mind-Matter *Naturalistic Dualism* leads into a more careful & limited *Interactionist Dualism*. The *anti-Realist* viewpoint of *Interactionist Dualism* attempts to explain away what Cognitive philosopher David Chalmers calls the "Irreducibility of Consciousness" by exploiting certain properties of Quantum Mechanics such as *Quantum Indeterminacy*. Thereby a non-physical Consciousness might be

responsible for filling the resultant causal gaps, determining which values some physical magnitudes might take within an apparently "*probabilistic*" distribution. More popular is a similar appeal to causal closure within Quantum Mechanics whereby "*collapse of the wave-function*" grants to Consciousness a vital causal role. "Consciousness-created" Reality describes this so-called Collapse occurring upon any act of Measurement or Observation. Such *Interactionist Dualism* avoids the *Realist Epiphenomenalism* ascribed to by most Scientists & Philosophers, including the relatively liberal-minded Chalmers.

A bit later, we will make our own valiant attempt to defend the "orthodox" Copenhagen II Convention of Quantum Mechanics, which was unpopular but accepted for ½ a century, & then unpopular & un-accepted for next ½ a century up until now & continuing so. But to face the now-majority "opposition" head-on, we do best to do more than address the thoughtlessly *Realist* nay-sayers who pretty much just say they "don't like" the Quantum Idealism of the Copenhagen Convention. They then proceed to "impress" with the *Mathematical* robustness of their own *Physicalist* scheme, be it Bohmian mechanics, De-coherence, etc. The irony of this dive back into *Mathematics* when attacking Quantum Idealism is obvious.

The more thoughtful Philosopher of Science might refine the criticism by saying the basic mistake of Quantum Mechanics is a mistake of theory, a lack of precision in defining terms, such as the definition of a "point", for indeed all of Physics prior to *String Theory* constructs the World out of points. Much like a TV or computer screen, a movie or painting, the mix of colors & shades we see are just so many points of *pixels* that are small enough so as to simulate a *continuum* to our eyes. But each *quantum*, each *pixel*, each "dot" or "period", & certainly each *clumsily defined Physics point* is an actual discrete filled-in circle, often of 2-D on paper or on a screen. In a Hologram, or as imagined in Physics is such a *Mathematical* of "some dimension". Periods, dots, & pixels of course have finite Area on the surface upon which they are represented. But even more abstract ordinarily-considered *Mathematical* points have Dimension. At minimum, a *Mathematical* Point on a Number Line has the same 1-D as does the Line itself. On a 2-D Graph, each Coordinate Point has 2-D. On a 3-D Graph, as in a Hologram, each Coordinate Point has 3-D. And so it goes for 4-D & higher-D. All these *Mathematical* points make up a *discrete* realm that only simulates a *Continuum* for sufficiently small, closely placed points.

A *true* Point, these critics will say, a conceptual or Philosophical Point alone has 0-D, but such is not the case for any *Mathematical* Points. Quantum Mechanics, the critics will say, is a *Mathematical* formalism dealing with *Mathematical* Points, & hence non-infinitesimal, discrete *quanta*.

Applied Mathematics, they say, *represents* Physical Reality, but it is not that Reality itself. The difference, they say, between non-infinitesimal, discrete *Mathematical* Points & the

“real” 0-D physical points of the *Continuum* “falsely creates” Heisenberg’s Uncertainty Principle & Quantum Idealism by virtue of that mix-up, between the 2 kinds of Points.

Mathematical calculations upon *Mathematical* points, but not upon a physical points. The *Mathematical* points were created to allow the Math in the first place. The more thoughtful critics then claim that Quantum Mechanics forgets this & mistakes the Math for the Reality. [*But the Quantum Idealists actually deny that Quantum probability wave is a Physical Reality. Yes is it Mathematically described, but exists in Aristotle’s Potentia or in Cosmic Mind [not puny little individual mind] – neither “physical” nor “mathematical”*]. Critic & Idealist (*unbeknownst to each other*) agree that Math cannot be the Reality, but the Idealist denies that mind-created Physics or mind-created World can be either. Both say that Math *represents* the Physical Reality, but it is not logically equivalent to the Physical Reality.

Superposition & Quantum Entanglement, critics say for instance, are both caused by mistaking the Math for the Physical Reality. Superposition was historically just an addition of Wave Amplitudes. In Quantum Mechanics, these waves are Probability Waves, & so superposition seems to imply, in some circumstances, a multiple existence. Probability Math cannot fully represent Physical Reality, say the *Realist*.

Even regular Math cannot fully represent Physical Reality, in that the Dimensions will always be incommensurate. *Mathematical* fields cannot match Physical fields due to the fact that you cannot *Mathematically* represent (or graph) a zero-dimensional variable. But probability Math represents Physical Reality even less fully, for obvious reasons. Probability Math gives us only probabilities.

Quantum Idealism, of course, somewhat parallels Bishop George Berkeley’s Idealism: “*Our ideas are all we know & all we can know. Therefore our ideas are our Reality. The existence of material objects is therefore just conjecture. It is unproven & unprovable.*”

Heisenberg’s Quantum probability made the Math the Reality. But math is an abstraction & therefore an idea. In this way, Quantum physicists are Idealists. The *Realist* critic re-iterates that the “field” of Physical Reality is always at least 1-D removed from any Mathematics. It must be by all the rules of logic & by the definition of “*Math*” of “*field*” & of “*number*”. This means that the gap between Math & Physical Reality, they say, cannot be closed. But what proves the so-called Physical Reality, with 0-D Points or whatever ?

The same critic would analogously refute Berkeley, no in terms of Dimension, but in terms of “levels of abstraction”. Just as a *Mathematical* Point is at least 1-D from Physical Reality, so too any *Mathematical* term or variable is at least one level of abstraction away from the Reality it represents, & any Idea must be at least one level of abstraction away from the thing it represents.

Akin to the critic of Quantum Mechanics, John Ruskin in 1856 refuted Berkeley principle that was later to be called *qualia*, by asserting that: "the color blue does not mean the sensation caused by a flower on the human eye; but it means the *power of producing* that sensation; & this power is *always there*, in the thing, whether we are there to experience it or not, & would remain there though there were not left a man on the face of the earth." That pre-Lockean confusion between primary & secondary Sense characteristics, (*at least*) lies at the heart of our later answer to these Quantum Mechanics critics.

Calculus for Yogis, part 8

First off, we attend to one of the various topics used in introducing Derivatives, topics that we have omitted, or in this case put off so far, for the sake of simplicity.

In previous examples we had talked about y being a function of x so that y is graphed on the Vertical scale & x is graphed on a Horizontal scale. We also said that another Independent Variable like Time, t could be the horizontal scale.

Well graphs aside for the moment, both y & x can be functions of t , while y remains a function of x . In that case, with x being of the function of t & y begins as a function of x , then what is called y as a function of t is a "composition" of the functions y & x in terms of x 's variable t .

$$(y \circ x)(t) = y(x(t))$$

Please know that the Rule for taking the Derivative of that Composition is called the Chain Rule. In terms of just the differentials dy , dx , dt , it looks like they could be canceled & the expression below could be proven by simple canceling of terms. That is a useful way of remembering how it works, but it doesn't work that simply. That aside the Chain Rule is:

$$dy/dt = (dy/dx) \times (dx/dt) \quad - \quad \text{the Chain Rule}$$

The foregoing, that is: taking the Derivative of the function of a function, called the Derivative of a composition of functions, for purposes was a necessary prelude to an easy introduction to the next basic pattern that we had put off. And that would be the general pattern or formula for taking the Derivative of one function times another, the Product of 2 functions. Both are functions of the same Variable. For instance, we can take Time as our Independent Variable & we have x & y to both be Dependent Variables, functions of Time, t .

Then if we take the Time Derivative of the product xy it turns out like this:

$d(xy)/dt = y \, dx/dt + x \, dy/dt$, which bears some resemblance to the Chain Rule,

which it should when we consider (xy) to be a function of x & y namely "multiplication" of the two.

$$d(xy)/dt = [d(xy)/dx] \times [dx/dt] + [d(xy)/dy] \times [dy/dt] = y (dx/dt) + x (dy/dt) ,$$

thus the same Product Rule as above. In other words, the Product Rule shows one function times the Derivative of the other, plus that other function times the Derivative of the 1st function, as it were, taking turns having the Derivative taken while simply multiplying by the other function. We can also affirm the simpler expression in terms of just "differentials"

$$d(xy) = x \, dy + y \, dx$$

When we take the trimmed-down *inverse* of the Derivative or just the "differentials", that *inverse* sometimes called the Anti-Derivative, the trimmed-down Indefinite Integral, of each of those last 3 terms:

$$\int d(xy) = xy = \int x \, dy + \int y \, dx , \text{ or rearranged to:}$$

$$\int x \, dy = xy - \int y \, dx$$

Corresponding to the Integral expression is on in terms of sums & differences:

$$\sum_{k=m}^n f_k \Delta g_k = [f_{n+1} g_{n+1} - f_m g_m] - \sum_{k=m}^n g_{k+1} \Delta f_k$$

Again to put the Integral expression in other words, if taking the Integral of 1 Variable, such as x in terms of y , is difficult, then we can instead take the Integral of that other Variable, such as y in terms of x . Taking the xy part as one kind of "fix" among various corrective factors, we here see for the 1st time, a relating of:

$$\int x \, dy \quad \text{to:} \quad \int y \, dx$$

The Integral pattern of is more clearly a "change of Variable" from: x to y .

$$xy = \int x \, dy + \int y \, dx$$

$$d/dt[xy] = x \, dy/dt + y \, dx/dt$$

$$d[xy] = x dy + y dx$$

$$F(z) = \int f(x) e^{-2\pi xz} dx, \text{ taken from } -\infty \text{ to } \infty$$

$$f(x) = \int f(x) e^{2\pi xz} dz, \text{ taken from } -\infty \text{ to } \infty$$

Corresponding to Integral expression is the Fourier Series in terms of Sums:

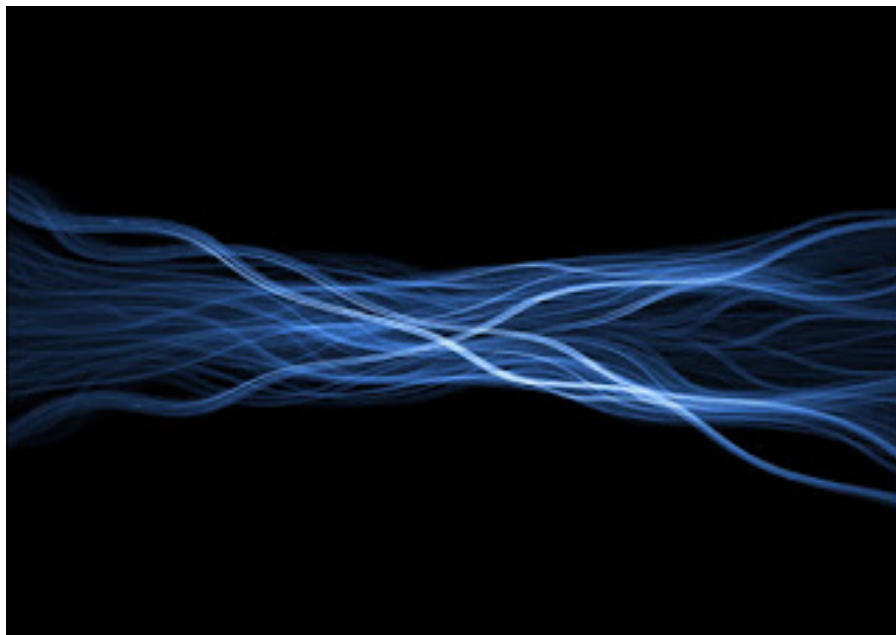
$$\sin_N(x) = \frac{1}{2} A_0 + \sum_{k=m}^N [A_n \cos 2nx/P + A_n \sin 2nx/P]$$

The Laplace transform, like the Fourier transform transforms a expression in ordinary Variables to one in a Frequency or "*imaginary*"–Frequency–type Variable.

$$F(s) = \int f(t) e^{-st} dx, \text{ taken from } -\infty \text{ to } \infty$$

$$f(t) = 1/2\pi i \int f(x) e^{st} ds, \text{ taken from } \gamma - i\infty \text{ to } \gamma + i\infty$$

To the Integral expression there is no corresponding is the "Laplace Series" in terms of Sums.



Essay outside of the NMT (No-Me Teaching) series 24 b

Some Ramana Maharshi quotes:

Even the thought "I do not realize" is a hindrance. In fact, the Self alone is.

Our real nature is mukti. But we are imagining we are bound & are making various, strenuous attempts to become free, while we are all the while free. This will be understood only when we reach that stage.

We will be surprised that we were frantically trying to attain something which we have always been & are.

A man goes to sleep in this hall. He dreams he has gone on a world tour, is roaming over hill & dale, forest & country, desert & sea, across various continents & after many years of weary & strenuous travel, returns to this country, reaches & walks in. Just at that moment he wakes up & finds he has not moved an inch but was sleeping where he lay down. He has not returned after great effort to this hall, but is & always has been in the hall. It is exactly like that. If he is asked. "Why being free, do we imagine that we are bound ?" "Why being in the hall did you imagine you're on a World adventure, crossing hill & dale, desert & sea ?" It is all Mind or Maya [Illusion].

See if the unreal has come to be. There is no such thing as the unreal, from another standpoint.

The Self alone exists. When you try to trace the Ego, which is the basis of the perception of the World & everything else, you find the Ego does not exist at all & neither does all this creation that you see.

The ajnani sees only the Mind which is a mere reflection. If the light of pure Consciousness because his Mind is extroverted & has never sought its source.

Just as a small pot of water Reflects the enormous Sun within the narrow limits of the pot, even so the vasanas or latent tendencies of the Mind of the individual, acting as The reflecting medium, catch the all-pervading, infinite light of Consciousness. The form of this Reflection is the phenomenon called the Mind. Seeing only this Reflection, the ajnani is deluded into the belief that he is a finite being, the jiva, the individual self.

TIME & SENSES:

Past description, Present description, & Future description, which are known by thought-forms, can only be illusory. This leaves timeless Consciousness as the ever present underlying condition. We can consider the manner in which one seems to know of the World of sense objects in Thought. The sense of touch, for instance, provides a variety of intermittent signals, describing textures & shapes, but all in a vague hardly localizable collection.

When one Perception is in Consciousness, no other can be there in Consciousness. Nor can any other Perception in fact exist elsewhere because there is nowhere else. If storage of other Perceptions could occur in some other place, realm, or domain, outside of Consciousness, how would it be known ? If not present in Consciousness at a give moment, then where can that Perception be stored or hidden ? And so with only one partial sensory Perception present & existing at any one time, the Sensation of the World is always an incomplete, vague, & sketchy impression at best. We can compare this Mind-colored and filled-in illusion to the sketchy shadows of a dimly lit *Rope*, being mistaken for an entire *Snake*. Once the light of clarity is cast upon the "Snake", it is seen & known to have been a *Rope* all along. Once the sketchy structure of the Sense-World is recognized for what it is, pure Consciousness remains apparent as the sole Reality.

Each Sense takes no account of any other Sense. We must take Sights & Sounds & artificially link them with Sensations of Touch in order to construct a World at all. Just like intermittent Sounds, so likewise do flickering momentary Visual pictures get blended with each other, & then with Sound track to create the "movie" of the World.

The old Hollywood movie "Brainstorm" reiterated the often played Science Fiction theme of total Sound-Sight-Feel-Taste-Smell-Think-Feel recording & playback on advanced multi-sensory & multi-cerebral recording media. Whether it be electronic media, or hallucinatory drugs, psychotic distortion, hypnosis, dream, or physical illusions like mirage & rainbow, the question remains, how do we know for sure that the World we seem to experience right now is any more Real than any of these ? Why could we not be like some *sci-fi*, Science Fiction character, an intergalactic espionage agent captured & plugged into a *Vat* or some other fabricated Life experience ?

While not a serious question, the point still merits fanciful contemplation. Looking through the gaps that separate the Senses & the Time intervals between momentary Perceptions themselves, we see into a *formless continuum* upon which the ghost-like multi-sense-media image of the World is cast. In looking back from that *formless continuum*, we are actually looking back from pure Consciousness. The Perennial Philosophy of *Vedanta* declares the Sense images to be insubstantial shadows in that one Reality of Consciousness.

And then again, every Perception, be it well combined together with other perceptions or not, is itself only a particular type of thought-form. And if Thoughts cannot contact one another, how are they to be combined ? For all these thought-forms, Consciousness is the *combiner*, the *holder*, the *viewer*, the *substratum*. At the very least, even if the World were taken as valid, then the option still remains to identify with Consciousness rather than with these objects. In terms of the Quantum Mechanical Measurement problem, the question could be taken up from the viewpoint of being Consciousness rather than from the ordinary viewpoint of being a Body-object in a World of other objects. The Senses present disjointed data interpreted as a World.

Calculus for Yogis, part 9:

The Laplace transform, like the Fourier transform (& *there are many other transforms*) display that pattern seen in integration by parts where the integral of a product of functions allows us to transform our description from one Variable to another Variable.

In Quantum Mechanical Hilbert Space, the Fourier transforms between Distance space & Momentum space. In crystallography, it does so between Reciprocal space that determines Diffraction & Distance space, describing position of atoms in the crystal.

Both the Laplace & Fourier transforms, especially the Laplace transform, have some of there usefulness in the ability to exchange more intricate processes for addition processes. We saw this in a similar way in use of Logarithms to substitute addition for multiplication. In the case of Fourier transform, especially the Sine & Cosine are key elements.

With that in mind, we further our exploration of Sine & Cosine by considering a Unit Radius Circle & the Intersection of that Radius with the Circumference. If that Point of Intersection was the Point of reference, then its Horizontal position is the x Coordinate. This would be the Cosine of the Angle between the Radius Line & the Horizontal X axis. The Point's Vertical position, the y Coordinate would be the Sine.

If we allowed that Point to revolve at a uniform speed CCW around the Circle, we could to shine a light from left to right & cast a shadow of that Point, bobbing *up & down*, in simple Harmonic motion, like a spring. Part of that range could also be cast by the shadow of a Pendulum.

If we were to cast a shadow from a light below onto screen above, we would see the point moving *to & fro* in simple Harmonic motion, again representing the rise and fall of the Cosine [*image rotated 90°*]. If we were to allow those Points to have a *pen* attached in some way & have a uniform-speed of chart paper rolling underneath that *pen*. we would trace out a wavelike curve. These in fact would be the graphs of the Cosine & Sine functions.

These Waves describe many physical phenomena, including Alternating Current. And so, we find that the Fourier transform is very useful in Electronics simply it exactly because of its component Cosine & Sine functions. Again in Complex Space, the Exponential Function serves the role of combining these 2.



NMT (No-Me Teaching) 93

Ribhu Gita (Tamil) Ch 35:

(10)

There are none of the delusions of the Mind such as
The extensive variety of sins and duties,
The plethora of prescriptions and proscriptions.
The worship with attributes, devotion, the knowledge
of attributes,
The real and the unreal.
Casting aside everything with your inner steadfastness in the certitude that
All is the divisionless Brahman, and *That* I am,
Abide changelessly in the Self.

(11)

There are none of the specious notions of the various kinds such as
Meditation on the qualityless nature
And knowledge of the attributess form
And the bondage arising out of Duality
And the Liberation of being the One.

Casting aside everything with your rare steadfast certitude
That all is the motionless Brahman, and *That* I am,
Abide changelessly in the Self.

(12)

There are none of the delusions of Duality such as
The Inquiry into the existent and the non-existent,
The Inquiry into the mobile and immobile,
The Inquiry into Consciousness and non-Consciousness,
And the Inquiry into the little and the great,
Casting aside everything by the Non-Dual certitude
That all is the one Supreme Brahman, and *That* I am,
Abide changelessly in the Self.

Some disciple of Ramana Maharshi quotes:

Yes, you can say that this state of affairs is also Bhagavan's grace, Bhagavan's compassion. You could say that He keeps the world like this as an incentive to go inwards. This state of affairs sets up a real choice; if we go outwards there are problems; if we go inwards there is peace.

We have to give up all the things of this world, and all other worlds, and direct all our attention towards the Self. If we want anything in this world or the next our energy will be dispersed in these desires, and to fulfill these desires we shall have to be reborn again and again.

To find the Self, to find what is real, you have to look inside yourself.

Turn to the light within all the time.

You dissipate your desire for the Self by undertaking all kinds of useless activities that waste your time and lead to attachments. You think that your life is endless and that you can put off meditation till a later date. With this kind of attitude, you will die filled with regrets, not filled with peace.

Based on the Teachings of a great Sage:

Remembrance is merely one kind of thought amongst others, each Memory forming the present, & therefore an entirely new, object of Consciousness. It is impossible to live in the World unless we accept Causality [Cause & Effect], but it is impossible to understand the nature of the World when Causality is accepted. Its acceptance amounts to granting the independent & simultaneous existence of objects, any one of which may be acted upon by

another. This we have seen to be an impossibility, for an object cannot exist unless it is thought of, & 2 thoughts cannot occur simultaneously.

If, however, we grant for argument's sake that objects could exist independently of their being cognized, we should still be unable to allow the relation of Cause & Effect. Strictly speaking, it is only after the occurrence that we can take it to be the Effect of a Cause, by which time the ostensible Cause must be presumed to have passed over entirely into the Effect. The 2 never are observed in concert. Causality is therefore a meaningless term.

Notwithstanding the fact that all men experience the Self as an unbroken continuity, they normally take no note of its Existence excepting as the Subject to whom Objects appear discontinuously. This is to be expected, for they have not looked into the nature of Deep Dreamless Sleep. Moreover, because they always emphasize the *objective* side of their experience & overlook the *subjective*, they transfer the continuity of Consciousness to the objects of Consciousness in the form of relationship.

Consciousness then appears as the Memory which relates one thought to another. But Remembrance, as already stated, is only 1 kind of thought. And 2 thoughts cannot occur simultaneously. A thought is the Consciousness of an Object & every new thought bespeaks a new Object. Since 2 thoughts cannot together occur, it follows that 2 Objects cannot coexist. How then could they [*the 2 Objects*] be related ?

Thus the ideas of Change & Causality are erroneous, for the incident of Change, or the relation of a Cause to its Effect, is a figment. As to the relation of Space to Time, granting the reality of Space when the reality of the perceiver's Body is also granted, several Perceptions are required in order that the Notion of an "*extension*" may be formed.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

Whether there is a real Ego to kill, whether it was ever really there, if there seems to be an Ego, it is best to "kill" it. The best way to kill it is to find it. The more one inquires, the less he sees of it. First, eliminate the tracks it leaves behind such as the actions, the "*I-am-the-body idea*" & so forth & so on. Then eliminate its thoughts. Get to what the Ego, itself, is. If you hold on to the Ego—"I" then its "I"—ness disappears & only an "I"—less "I" remains. The Maharshi has said, "If we penetrate into the heart of the Ego, only the Self is there." He said so because, in Truth, there is only one "I". If there is an Ego, hunt it down & slay it. Your aim is to destroy it.

When you hunt it you find that there is nothing there to be destroyed. That is why it is called *Maya*. In the ancient scriptures, it is said that it is impossible to explain *Maya* & that it is "without beginning." Most think that this means that it has been around for a long time. That is so [*in Imagination & Ignorance*]. Yet it also means that it is without beginning, that

it did not start. That is why it is *Maya*. It did not start. If you think it is existing, it seems to have been going on for a long time, much like, when you start to dream, you feel that the Dream has already been going on. It seems as if the Dream World has been going on for a long time, even though it is all just in your Mind. It is like that with the present illusion. It seems as if it has been there, but really it has never been there.

Inquiring to know the Truth & getting a good grasp of what this Illusion is, [*it turns out, one finds that*] there is no Illusion at all. There is nothing to it. It is like bringing a light & grabbing the proverbial *Snake* to find that it is just a *Rope*. Nevertheless, you need to bring the light in & see it for yourself.

[COMMENT: *Not to be disrespectful, but some may recall from The Matrix movie that similarly "one must see it (the Illusion) for yourself."*]

[*in response to a questioner who feels the Ego Illusion to be a way he "boxes" himself in*]

When you see yourself building the "box", you can just as easily dismantle the box. If you think the "box" [*on the other hand*] comes prepackaged, & that you are just *in it*, it seems a mystery as to how to attain your freedom. But seeing how you, yourself *construct* the Illusion of Bondage becomes the way to your Liberation. Your aim should be to look into the "I." If you feel that the "I" is just a thought, a notion of Individuality that rises & falls, your aim should be to know & establish your Identity as That which sees the rise & fall even of the "I". That alone is the true "I" & there is where your Identity ought to be.



NMT (No-Me Teaching) 94

Ribhu Gita (Tamil) Ch 35:

(13)

There are none of the delusions of the Mind such as
The extensive variety of sins and duties,

The plethora of prescriptions and proscriptions.
 The worship with attributes, devotion, the knowledge
 of attributes,
 The real and the unreal.
 Casting aside everything with your inner steadfastness in the certitude that
 All is the divisionless Brahman, and *That* I am,
 Abide changelessly in the Self.

(14)
 Casting aside even the conviction that the “I” adopts:
 That all the World is completely non-existent,
 And only the motionless Supreme is Existence.
 That all is totally non-existent
 And only the Self is perpetually Existence,
 That the Self indeed is Brahman
 And Brahman without a 2nd is the Self,
 Abide changelessly in the Self.

(19)
 Negating all variety of conditionings such as
 The infatuated Mind, the Intellect, the Ego, the inner faculties,
 Life, Body, organs, senses. eyes. illusion.
 The difference-ridden Individual being, the Supreme, and the World,
 Further casting aside all the mental projections arising therefrom,
 And understanding well the identity
 Of the natural oneness of the word "That" with the word “I”,
 Abide changelessly in the Self.

(20)
 Realizing with certitude
 That whatever is seen as a superimposition on the Self
 Is not apart from the Self,
 That the Self is that which is the undivided Supreme Brahman,
 And it is the undivided Supreme Brahman that is the Self,
 That it is Brahman that is the Self, that “I” am.
 And casting aside all that is apart from the Self.

Abide changelessly in the Self.

Some disciple of Ramana Maharshi quotes:

The more we attend to thoughts pertaining to the second and third persons, the more they will increase.

There are two kinds of impediments which act as obstacles for the mind to achieve Self-abidance, and hence two kinds of strength of mind are essential for overcoming them. The first strength is that which is required to prevent the mind from branching out into innumerable thoughts through the force of tendencies towards the sense-objects. The second strength is that which is required to direct the mind (the power of attention) towards the first person or Self, that is, the strength actually to attend to Self.

The nature of the mind is to attend always to things other than itself, that is, to know only second and third persons. If the mind in this way attends to a thing, it means that it is clinging (attaching itself) to that thing. Attention itself is attachment !

When the power of attention of the mind is directed more and more towards second and third person objects, both the strength to attend to those objects and the ignorance – the five sense-knowledges in the form of thoughts about them – will grow more and more.

The mind which attends to Self is no more the mind; it is the consciousness aspect of Self ! Likewise, so long as it attends to the second and third persons (the world), it is not the consciousness aspect of Self; it is the mind.

Based on the Teachings of a great Sage:

These several Perceptions take time. That is to say, they are successive. Space is therefore inseparably linked to Time, & Time to the Memory of successive Perceptions, granting also the real existence of a *retentive* faculty. Many thinkers believe that the concept of Time cannot be fully accounted for, unless we distinguish between *perceptual*, or *subjective*, Time, which is confined to the perpetually shifting "Now" of the Present, & *conceptual* or *objective* Time. This includes all periods of Time & in which events we call Past, Present & Future can be mutually & fixedly related.

No clear distinction can be drawn between Perceptual & Conceptual time, for the one cannot be postulated without the other. Nevertheless, if we consider the "Now" of the Present entirely by itself, just as it occurs in experience, Time need not be postulated at all. And if we closely examine our ideas of Past, Present & Future, they are found to be "gratuitous" [*unnecessaey*], & so again we cannot postulate Time.

Deep Dreamless Sleep is a state of Un-conditioned Being, when viewed from its own standpoint & in Reality. We say, nevertheless, that we slept for so many *hours*, just as we describe as *brief* the Interval between 2 thoughts. In both cases, we attribute an Existence in Time to the Unconditioned Self. But if we carefully consider the actual experience, we shall

find that *duration* has no part in either Interval. We experience *duration* only in [mental] States characterized by the succession of thoughts.

Time is therefore the *object* of Consciousness. Time, in other words, has no existence unless we are "thinking" of it. Our concept of Time is based on the ideas of Past, Present, & Future. Now this division of Time has no real meaning. The *thought* of a Past or a Future event occurs always as the Present *object* of Consciousness. The event we supposedly *recall* or *expect* must have been, or will be, a Present experience. Strictly speaking, moreover, a Past event as such has vanished [*gone*] once & for all; a Future event as such is wholly inexistent [*not yet to be*].

Some more selected verses from the Ramana Maharshi disciple Master Nome:

All that is said of the Truth — that it is the Unborn, the Uncreated, the Unembodied — pertains to that real Self. If these descriptions were about another, it would do you no good for Self-Realization. They are all about the Self, the very *Being* of you. That is why those spiritual descriptions & the sayings expressing the Teachings have been preserved for ages & ages. They are all about You, who you really are. That is why you can have Self-Realization. If they were about another, a different kind of Self, there would be no Realization for you, & consequently, no hope of Peace or Bliss or Liberation. But they are about You, who you really are.

See the rise & fall of the "I" & inquire to see if this "I" is existing at all. See the various mis-identifications built upon that "I". See these mis-identifications as mis-identifications & not as true. Thereby, you climb directly out of Bondage through Knowledge. Seeing a mis-identification as such, you are no longer identified with it. Seeing Ignorance as Ignorance is its destruction.

If you are caught in Attachment & your Mind is becoming entangled in Delusion, see it as the conjuring of your own Mind. Examine to see what thoughts are composing this & upon what Identity have you been thinking these thoughts. The thoughts have a basis, which is some kind of Identity. "Go back the way you came" [*a well-known Maharshi instruction, intended on the deepest level*] & thus set yourself free. Go on making this Inquiry until your freedom is complete & firm, without wavering.

[*in response to a questioner comparing Self-Inquiry to comparable scriptural teachings*]
To contrast or compare can be very useful. Make sure that identity becomes established by the actual inquiry, "Who am I ?" for the Self is singular without a 2nd. We contrast the Self with whatever is regarded as the "I" in order to assist with Discrimination, so that the ability to see with the Eye of Wisdom is there. Once one is firmly headed in the right direction, he simply inquires, "Who am I ?" The "I" is only one. [*In other words the true "I" is the one referenced in Self-Inquiry.*]

In highest Truth, there is not a right "I" & a wrong "I" – a true "I" & a false "I". There is just one "I". If you have come to the conclusion already mentioned, or if there is a question of difficulty, & you feel that you are taking your stand with the wrong "I" or you assume that there is a wrong "I" involved in all this, inquire, "*Who am I ?*". That resolves everything.



NMT (No-Me Teaching) 95:

Ribhu Gita (Tamil) Ch 35:

(21)

Sage of intense spiritual practice !
Casting aside all ideas of difference
By the differenceless Knowledge of the Supreme.
The Knowledge that all appearances of superimposition arise in me.
Who am eternal Knowledge,
And therefore indeed, all "I", the perfectly full Knowledge,
And that "I", the expanse of Knowledge, am Brahman.
Abide changelessly in the Self.

(22)

Like the truth of a Mirage seen superimposed on the hot ground,
Being ultimately only the ground itself ,
Whatever is seen as a superimposition on the Self, the Substratum,
Is only the Self,
And differenceless "I am Brahman".

Casting aside all ideas of difference
By such differenceless Knowledge of the Supreme.
Abide changelessly in the Self.

(23)

Like the "truth" that all that is seen in me is a Dream.
Is nothing apart from me.
All that is seen in me during the Waking State
Is never anything apart from me.
Casting aside all ideas of difference
By the differenceless Knowledge that "I" with nothing apart am Brahman,
And by the differenceless Knowledge of the Supreme with nothing apart.
Abide changelessly in the Self.

(24)

If the World and such really exist,
They should be changelessly present in Deep Dreamless Sleep.
Since all these do not exist in Deep Dreamless Sleep,
All these are dream-stuff. illusion.
I who remain unchanged am Brahman.
Casting aside all ideas of difference,
By the pure differenceless Knowledge of the Supreme,
Abide changelessly in the Self.

Some disciple of Ramana Maharshi quotes:

Many are those who take qualified experiences of taste, light, sound and so on to be the final attainment of Self-knowledge and because they have had these experiences they think that they have attained liberation and they become more and more entangled in attention to second and third persons, thus losing their foothold on Self-attention. Such aspirants are called "those fallen from yoga." This is similar to a man bound for NYC getting down from the train at some intermediate station, thinking "Verily, this is NYC", being deluded by its attractive grandeur!

A sincere aspirant should arrange his work in such a way that he will spend only a portion of his time & energy for maintaining the body, so that he can utilize the remaining time & energy in striving to earn the great profit of Self-knowledge.

Based on the Teachings of a great Sage:

It follows that in thinking of Past & Future occurrences, we do so only with reference to a Present time. But without a subsistent Past & Future. we could not form any notion of the

Present. There cannot indeed be a Present, since there is neither a Past nor a Future time. Consciousness alone subsists & Consciousness alone is Ever-Present.

From a standpoint that is still in Duality, thought appears as the principle of Consciousness objectified, But in order that Consciousness may seem to be objectified, an independent *agent* is needed: & nothing can exist independently of Consciousness.

Thought is the apparent objectification of Consciousness. Let me add, moreover, that each thought as such has an object & that the 2 are inseparable. Now time, or the notion of succession, is one such object. Time too is Consciousness objectified.

We measure the passage of time by the observation of movements in natural objects like the Sun. Observation implies the remembrance of successive Sensory Perceptions. Were it not for these memories, our Notion of Time, if we could ever have acquired it, would fade into the experience of Pure Being, as it does whenever mental activity ceases.

The absence of mental activity cannot properly be called a State [*of mind*], since it transcends Time. If we wish to understand what it is, we must abstract every idea of *duration* from our Mind. This is not impossible, for a thought as such is always at one with its Object. If we make timelessness the object of thought, all that is *objective* drops away & we realize Timelessness as pure, changeless, Being.

There remains the question as to why the principle of Consciousness, which is immutable & impersonal, should come to appear as the duality of a conscious *subject* & its *object*. As to the situating of experience in Time, when we are thinking of a specific object, nothing else is present to Consciousness & there is no idea then of the object's location. A separate thought, or series of thoughts, is required in order to situate that one object in relation to others. These determinative [*location*] thoughts follow almost invariably.

Likewise, just as one group of Sensations going to form the Notion of an Object is followed habitually by another, which situates the Object in Space, so is this, & any other kind of experience, followed habitually by one which situates it in Time. That is to say, it brings the experience into relation with the succession of thoughts in general. The group of thoughts so situated is then considered to be a present occurrence, though it is already Past. It is considered to be a Past occurrence only when new thoughts arise.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

The Maharshi has said that the Self, which is its own Realization, is *Being*. It is not an occurrence, but it is *Being*. The Self is Consciousness, itself. Even now, Consciousness is not an event. It is not something occurring to you. Even now, your own Existence is not occurring to you. It is not occurring slowly, rapidly, in intervals, or even continually. It is

not something occurring. Rather, it is something that *is* [a timeless, from Past Eternity to Forever, always, everywhere, without anything else, solid Reality].

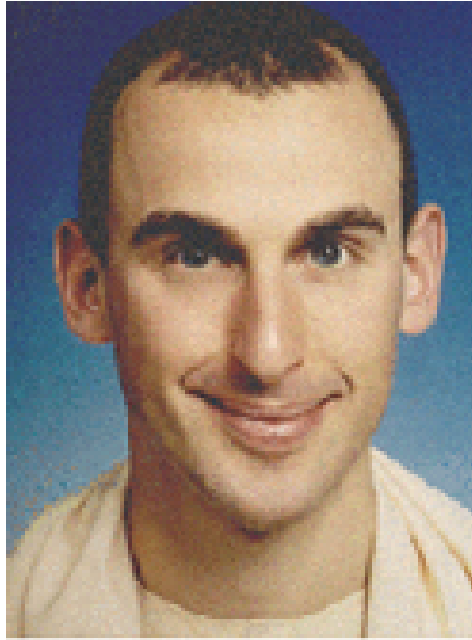
The Quest to know one's Self is, simultaneously, the Quest to know ultimate Reality. Reality is *That* which *is*. That which is your *Existence*, the real Self, is *That* which *is*. There are not 2 of you, a “self” that you supposedly are, & a Self that will happen to you, as if you would acquire or attain it. The Maharshi has made this abundantly clear when he says, "There are not 2 selves, one to realize another."

Every effort should be made, & one should persevere with utmost intensity in such a way to know the Self, but keep in Mind that it is *Self-Knowledge*, the Self knowing itself, & not an *objective* occurrence.

How are you to know the Self ? You are to know the Self without any intermediary. The same things that would act as intermediaries should be set aside as just so many misidentifications, for they are not your real Self. As you inquire, set aside, as not having anything to do with a definition of your Self, all that occurs in the World, & anything perceived by your Senses, inclusive of the Body. Such is not your identity, & any bodily state or Sense experience is unrelated to the Realization of the Self, or Knowledge of the Self.

Thought should be set aside. You do not know the Self through thought. Whatever your Knowledge is of the Self that if true we even now, such as the fact of your own *Existence*, is not through thought. You do not require thought to know that you *exist*.

Similarly, the Realization of the Self is not thought–dependent. Inquiry, likewise, is not thought–dependent. Of course, one may commence meditation by thinking, "Who am I ?" Yet, as soon as the Inquiry turns further inward, the experience is that of Consciousness abiding quite free of any thought, even the thought of "I".



Master Nome, quoted below

NMT (No-Me Teaching) 96

Ribhu Gita (Tamil) Ch 35:

(25)

The World, Individuals, and the Supreme.

Not a trace of which existed before the projections of the Mind arose,
And not a trace of which will exist after those projections of the Mind subside,
And which seem to have a gross existence,
Though appearing in between
Due to the projections of the Mind,
When thoroughly inquired into, are realized to not exist at all.
Thus negate all else, and abide changelessly in the Self.

(26)

There is no Mind and no thought of the World or Individuals or
others in Deep Dreamless Sleep.
In Dream, there is a "mind"
And extensive thoughts of the World and others.
By this comparison and contrast, upon even a little Inquiry,
There is not a trace of this World or Individuals and others,
Which are all merely of the inner faculties.
Thus negating all such thoughts,
Abide changelessly in the Self.

(27)

There is no Mind, no distortion of Mind,
 No delusion that the Mind is the cause.
 No Waking State, no Dream, no Deep Dreamless Sleep,
 No name, no form, no "me", no "you".
 Nothing else ever – never anything at all.
 Negating all differences by Inquiry
 And abiding in the nature of the undivided Absolute with nothing separate,
 Abide changelessly in the Self.

(28)

Like the evident truth the *Snake* [imagined in a *Rope*] and other superimpositions,
 When inquired into, |are nothing in the least different
 From due natural substratum of the *Rope*.
 There is nothing of illusory superimposition
 Except the pure Substratum itself which is the Self.
 By the process of such Negation and blemishless Discernment,
 Be established as the nature of the great undivided Supreme.

Abide changelessly in the Self.

Some disciple of Ramana Maharshi quotes:

When we mistake that which is impermanent for that which is enduring, it only serves to emphasize the disharmony within our hearts. The true temperament is one that cleaves to the indestructible Self dwelling at the heart of our very Existence as the immovable Reality.

Unless the mind subsides into the heart, whose nature is consciousness, and experiences the deep peace of union with it, the mind, through separation from it, will fall into the trap of the sense organs, be whirled about in the world of the senses, and become scattered.

Those who crave a worldly life of pomp and ostentation, relying on the fleeting impressions of the sense organs, will remain slaves to the obscuring desires of the flesh, and give scant regard to the eternal life of living as the supreme.

Those who, instead of enjoying the bliss of the Heart — the form of Consciousness — embrace and find pleasure in the objects of sense, will wander from birth to death and death to birth, alternating in that deluded consciousness between the states of membering and forgetting.

Based on the Teachings of a great Sage:

"Past thought" really means I am at Present conscious of the kind of thought called a Memory (*or a recollection*). "I will think" really means I am at Present conscious of the kind of thought called an Expectation (*or a future intention or a prediction*). "I think" really means I am at Present conscious of the kind of thought called an Actuality or a Present occurrence.

That the absence of *objective* experience in connection with the use of "thought" experience cannot be thought or spoken of as a Present occurrence. This is obvious. In the 1st place, there is no occurrence; & in the 2nd, there is no individual to speak or to think. The seeming Duality of a conscious *subject* & its *object* arises only when *objective* experience arises.

"I slept" (*in Deep Dreamless Sleep*) or "I was unconscious" really means I am at Present conscious of a Memory that relates to the absence of thought. But it is not exactly the absence as such of thought that is remembered. Sleep & unconsciousness are Notions based on the Memory of conditions that preceded & followed the cessation of individual experience.

This comes from the standpoint of the plain man who thinks of Sleep as occurring in Time. That is to say, as having a beginning & an end, thus making it a part of Waking experience. Whereas Deep Dreamless Sleep from its own standpoint cannot be said to occur at all. Profound Deep Dreamless Sleep in itself is non-temporal & neither an Active nor a Passive state. Duration, Activity, & Passivity pertain exclusively to the *objective* realm which in Deep Dreamless Sleep is non-existent.

But some Positive state, corresponding to what is Negatively called the absence of thought, does undoubtedly exist. That is called it a [*mental*] State. It is not a State in the common acceptation of the word, for States begin & end, but this is *non-temporal*. In it [*Deep Dreamless Sleep*] we are merged in Non-Duality, ready as it were to become, or rather to seem to become. That is the conscious *subject*, when *objects* are experienced, or seem to be experienced.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

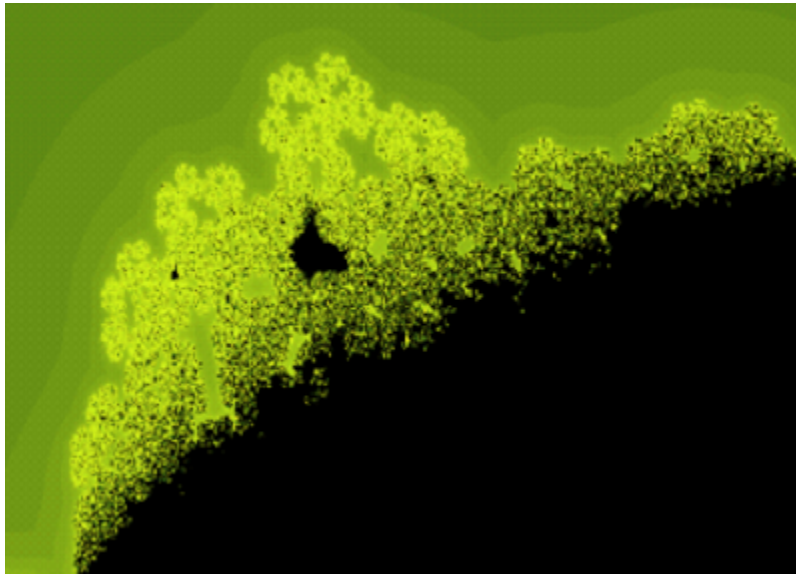
The Maharshi revealed Truth by exquisite instruction & by example. In his Silence, the instruction & example were identical & simultaneous. In that Silence, transcendent Abidance in the Unborn, the Uncreate, Reality without even a trace of delusion — the perfect example of how to be & also the instruction itself — in that Silence. "The doubts of the disciples were all quelled & subsided."

The Teaching is the Truth. The example is truthfulness. The teaching is highest Bliss. The example is the perfect Bliss & undisturbed Peace. The Truth is Self-Knowledge. The

example is steady Abidance in that Knowledge. In the Silence, the example & the Teaching were the same.

He said that the responsibility of the Guru — himself — is only to reveal his own Existence. How true that is ! How is it revealed ? It is Self-Knowledge. What is the Existence revealed ? It is one's own Existence, which has no Individuality, is not divided, & is not a multiplicity of beings. It is just One, interminable, Infinite, real *Being*. So, inquire & know your Self.

In Self-inquiry, there is a negation of what is not the Self, just to reveal the Self. It is, in Truth, a *negation* of what is unreal, in order to reveal Reality. The *negation*, itself is not a particular practice. It is just a way of describing what happens in the Inquiry.



NMT (No-Me Teaching) new series 97:

Ribhu Gita (Tamil) Ch 35:

(29)

Just as, if the conditioning of the *Pot* and the *Pitcher* are removed,
The *Pot* space and the *Pitcher* space are one,,
If the conditioning of Ignorance and such are removed.
The pure. Individual being & Supreme are one.
Realizing by the certitude of the Discernment
The Innate Identity of the Supreme and the Individual without any sense of Duality,
And becoming thereby of the nature of the dense Undivided Infinite,
Abide changelessly in the Self.

(30)

If after inquiry, the inapplicable meanings of words are removed

From the statement "He I am",
The meaning to be understood is the Innate Identity.
Likewise in the statement "*Tat Tvam Asi*" ("That You Are"),
The meaning to be understood, after removal of the inapplicable meanings of words,
Is the Innate Identity.
Understanding this, relinquish all the mental differences
And abide changelessly in the Self.

(31)
Negating all the illusory conditionings
Of the Individual and the Supreme by blemishless Inquiry,
And attaining the Knowledge of the fearless, undivided meaning
That the nature of Brahman,
Indicated by the word "That",
Is indeed "I", denoted by the "You",
And being rid of all the hard-to-remove Bondage of Worldly existence,
Abide changelessly in the Self.

(32)
There is not the least of the differences
Such as the World, the Supreme, you and "I".
I am not in any way different from Brahman.
Brahman is nothing different from me.
All that has been spoken of is the Undivided Supreme Brahman.
I am that perfectly full Brahman.
Casting aside everything by such undivided Knowledge of the Supreme,
Ever abide in the Self.

Some disciple of Ramana Maharshi quotes:

If you remain in the state of Consciousness, there will be nothing apart from it. No problems. no misery, no questions.

Ignorance is ignorance of the Self, & to remove it Self-Consciousness is required. When you come to an awareness of the Self, ignorance vanishes. If you don't lose contact with the Self, ignorance can never arise.

Bhagavan spoke about turning inwards to face the Self. That is all that is needed. If we look outwards, we become entangled with objects & we lose Consciousness of the Self shining within us. But when, by repeated practice, we gain the strength to keep our focus on the Self within, we become one with it in the Darkness of Self – Ignorance vanishes.

Tayumanuvar, a Tamil saint whom Bhagavan often quoted, wrote in one of his poems:

"My Guru merely told me that I am Consciousness. Having heard this, I held onto Consciousness. What he told me was just 1 sentence, but I cannot describe the Bliss I attained from holding onto that 1 simple sentence. Through that 1 sentence I attained a Peace & a Happiness that can never be explained in words."

Based on the Teachings of a great Sage:

Non-Duality abides as the Substratum & the Reality of Dualistic experience. This is so even though we cannot as individuals be aware of its Existence when our attention is turned outwards. Like Space, which would be inconceivable apart from the Objects it is supposed to pervade. Time also cannot be more than a Notion. It is never directly experienced. We never experience a Present Time. The present time is nothing more than our way of qualifying a select group of thoughts which has just now been Present to Consciousness.

Behind our Notion of a Present time, however, is the immediate apprehension of the principle of Consciousness, which is ever present as the Self. This is not in terms of succession, but as the Present Eternity. And this Immediate Knowledge finds expression in our use of the pronoun, "I". This is Egoism.

The pronoun, "I", Ego, even when supposedly standing for individual Consciousness, stands always for Non-Duality. If we would actualize this Truth, we must abstract Ego from our notion of Consciousness. In the Existence of Non-Duality, it is not a Presence we can *know* as we know Objects, since it is the real Self. That is to say, the Self is the Ultimate Subject.

Non-Duality, though unknowable, is of all things the "best known", for it is ever experienced as the Self. That is personal, not as we unwittingly do when we fall asleep & between 2 thoughts, but by the Remembrance in our workaday Life. Of the main principles of *Advaita*, personal guidance from one who has fully realized Non-Duality is essential. No book can take its place.

A practical definition of Individuality is the consciousness of a separate, corporeal existence; & of Personality, the sum of physical & mental traits characterizing that individual existence. Now in the being conscious of something, there is a distinction between Consciousness & the *object* of Consciousness. We are conscious of our individual existence & therefore we transcend it. That which transcends individual existence is the changeless, impersonal Self.

Notwithstanding, we identify the Self with the Body. The outcome of this mistaken attachment is the Notion of a personal identity, to which we give indirect expression through the possessive & direct expression through the personal & reflexive pronouns [*I, me, mine*].

The Body continually changes, but we who claim it as our own are changeless, otherwise we could not say, "this portrait is of me as a child." Yet we ignore the evidence & become identified with each successive bodily state of which we are conscious. This ignorance causes us to personify the immutable Self as our self, that is to say, as I who "think, know, enjoy, perceive" by the Senses, & "act", & their opposites.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

Since ancient times, it is recommended that one go on listening, reflecting, deeply and profoundly meditating, and experience absorption, until the Truth is realized without an alternative.

A book like "Who am I ?", "Forty Verses on Reality", by Ramana Maharshi or "Atmabodha, Self-Knowledge", by Shankara consist of only a few verses. Even if you were a slow reader, it does not take very long to go through one of them. Yet, you should listen to such, or read such to yourself; time & time again, each time understanding more & more deeply, until you, yourself abide as the Infinite. Then, what remains is the Self in perpetual fascination, as the Maharshi says, with the Self.

What else is detachment but utter clarity regarding the abiding source of Happiness?

Those simple questions, "Where is Happiness ? What is Real ? Who am I ?" tend to revolve again & again, each time deeper in the seeker's mind, until he has arrived at a conclusive Realization that will not waver in the least. In that lies Liberation.

Among those who are worldly-minded, who do not turn their minds inward, everyone is apart from God. Among those who are spiritually inclined, in one way or another, everyone is a part of God. For those who inquire to know themselves, there are no parts—just God.

However, it is not necessary to convince others, because either they are God already & you need not convince God, or they do not exist apart from God. In your practice, your aim should not be to convince others but to have inner experience. Moreover, your own blissful experience becomes convincing enough to those who have ears to hear.

If the Consciousness is obscured by a Mind that is cloudy, the Mind should be made pure, it is said. What is meant by a pure Mind is an introverted Mind, which is a Mind that relinquishes its own adherence to its own self-conjured ideas. Such is purity of Mind. With that pure Mind, you realize pure Consciousness. That is, the Mind is absorbed.

Quieting the Mind is not the end in itself. You can quiet the Mind by any number of means. Here, it is generally recommended that the desire for Liberation, itself; & the attempt to inquire, "Who am I ?" take care of quieting the Mind. If one uses another method to quiet the Mind, it brings him to the point at which he can make that inquiry to know who he is.

If there is a feeling of bondage, the instruction is given as to how to be free or to be Liberated. Following that instruction, finding your own nature, you discover that it is Freedom itself, Liberation itself. In other words, you discover that your True Nature has never really been bound.

Non-Dual experience is aligned with Self-Knowledge, & may be felt by the aspirant as greater Freedom, greater Happiness, greater Peace. Such do not come to you. Indeed, it is always already there, but illusion or ignorance needs to be destroyed in order that the real Knowledge, the Reality, itself, shines. Similarly, the state of Self-Realization does not come to anyone. In Self-Realization, there is just the Self, and no individual.



NMT (No-Me Teaching) new series 99:

Ribhu Gita (Tamil) Ch 35:

(41)

All is the Supreme Brahman: there is no doubt of this.

I am indeed am *That*: there is not a bit of doubt of this.

I say this in the name of the Supreme Lord of all the World.

What said is the Truth. There is no doubt of this.

Worthy son! therefore. being aware, with great certitude,

That all is ever Brahman alone, and I am *That*.
And thereby casting aside everything.
Abide as the pure Self alone.

(42)

All "appearances" (*Individuals, etc.*) that seem sentient (*conscious*)
Are but the Supreme Lord, which is Consciousness alone.
I am indeed the Lord which has nothing in the least to learn,
I am indeed that Lord which has nothing apart.
By attaining the undivided Realization through such practicable *bhava* (conviction),
And being rid of the Bondage of Birth-and-Death cycle,
Abide as the "Apex",
Your Self alone, not different from the Supreme Lord.

(43)

Thus have I described the Abidance in the undivided Self.
As expounded by our Lord.
Son ! If this is heard just once or read
Without blemish as now told.
The undecaying State of Liberation will result.
Is there any doubt that
Those who hear this or read this every day
Will attain the bondageless Supreme Liberation?

(44)

Only those who deeply inquire into
And contemplate upon
The nature of the perfectly full, undivided Supreme Lord
As the Substratum of all the numerous Names & Forms of things
Will attain taintless, undivided Abidance in the: Self
And cross the hard-to-cross Ocean of Birth & Death (*re-incarnation*).
None else can ever cross this Ocean
By any other action, all being tainted (*by duality*).

Some disciple of Ramana Maharshi quotes:

Clinging to the Consciousness "I" & thereby acquiring a greater & greater intensity of concentration upon it, is diving deep within. Instead of thus diving within, many, thinking that they engaged in Self-Inquiry, sit down for hours together simply repeating mentally or vocally. "Who am I ?" or "Whence am I ?" There are others again who, when they sit for Self-Inquiry, face their thoughts & endlessly repeat mentally the following; questions taught

by Sri Bhagavan: "To whom has this thought come ? To me; "Who am I ?" Or sometimes even wait for the next thought to come up so that they can fling these questions at it ! Even this is futile.

We should not remain watching, "What is the next thought ?" Merely to keep on questioning in this manner is not Self-Attention.

By saying, "This is the direct path for all, Sri Bhagavan points out that anyone, however weak his mind may be, can acquire, through this Path, the true strength of Mind which is required to Abide in one's Source. Therefore, taking to Self-Attention, which is the real introversion, is by itself far better than giving any other target to the Mind.

If our attention is directed only towards ourselves, our knowledge of our existence alone is nourished, & since the Mind is not attended to, it is deprived of its strength.

When, through the aforesaid Self-Attention, we are more & more firmly fixed in our Existence-Consciousness, the tendencies will be destroyed because there is no one to

The feeling I am is the experience common to one & all.

The pure Existence-Consciousness "I am" is not a thought; this Consciousness is our nature. "I am a man" is not our pure Consciousness, it is only our thought.

Based on the Teachings of a great Sage:

The "I-thought", together with its concomitant, Memory, needs to be studied. Mental activity is a notion arising from the Memory of distinct thoughts. Each thought as such constitutes an *object* of Consciousness, of objective or individual experience in reference to mental activity. Thoughts are so called from the standpoint of one who sporadically identifies himself with his Body. His own & other bodies appear as external to what he takes to be himself, while thoughts seem to occur within. But for one who has understood that the Body & its World are merely Notions pertaining to his individual experience, there is neither an inner nor an outer World.

The whole objective domain will appear to be mental. If it has been clearly understood that the commonsense distinction between Matter & Mind, or Waking & Dreaming, is an illusion, then the truth of this statement will be readily grasped. But if all its implications have not been fully accepted, we are likely to oscillate continually between identification with the Body as such ("I am of medium height") & identification with thoughts as such ("I am clever").

We view thoughts as subtle entities until we know by reasoning & accepted the implications of the fact that all the *objects* of Consciousness, whether they appear as external or internal, are so many aspects of a single *objective* plane. It is pointless to make any distinction between Mental & Sensory, or Physical, activity.

What is called a thought is the Consciousness of something: & this Consciousness we personify as I who think. But for all that, we continue to use the word "thought" for the sake of simplicity, so long as we are examining human experience as such. The "thinker" is supposed to think the thoughts of which he is conscious. But no one "thinks".

This Truth will become apparent from examination of the Duality of *subject* & *object*. Note that the expressions, "I think" & "I am thinking" both mean I am conscious of something *objective* & not "I am the thinker". Whereas the objects of Consciousness are many & various, the single Consciousness in which they appear remains unmodified. "I" am therefore a principle transcending all that is objective to me. "I" cannot be the thinker, for the thinker as such is the object of Consciousness & not the Self. Otherwise I could not remember having thought.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

The Maharshi has said that the Self, which is its own Realization, is Being. It is not an occurrence, but it is Being. The Self is Consciousness, itself Even now, Consciousness is not an event. It is not something occurring to you. Even now, your own Existence is not occurring to you. It is not occurring slowly, rapidly, in intervals, or even continually. It is not something occurring. Rather, it is something that is.

The quest to know one's Self is, simultaneously, the quest to know ultimate Reality. Reality is That which is. That which is your Existence, the real Self, is That which is. There are not two of you, a self that you supposedly are, and a self that will happen to you, as if you would acquire or attain it. The Maharshi has made this abundantly clear when he says, "There are not 2 selves, one to realize another." Every effort should be made, and one should persevere with utmost intensity in such a way to know the Self, but keep in mind that it is Self-Knowledge, the Self knowing itself, and not an objective occurrence.

How are you to know the Self ? You are to know the Self without any intermediary. The same things that would act as intermediaries should be set aside as just so many misidentifications, for they are not your real Self. As you inquire, set aside, as not having anything to do with a definition of your Self, all that occurs in the World, and anything perceived by your senses, inclusive of the body. Such is not your identity, and any bodily

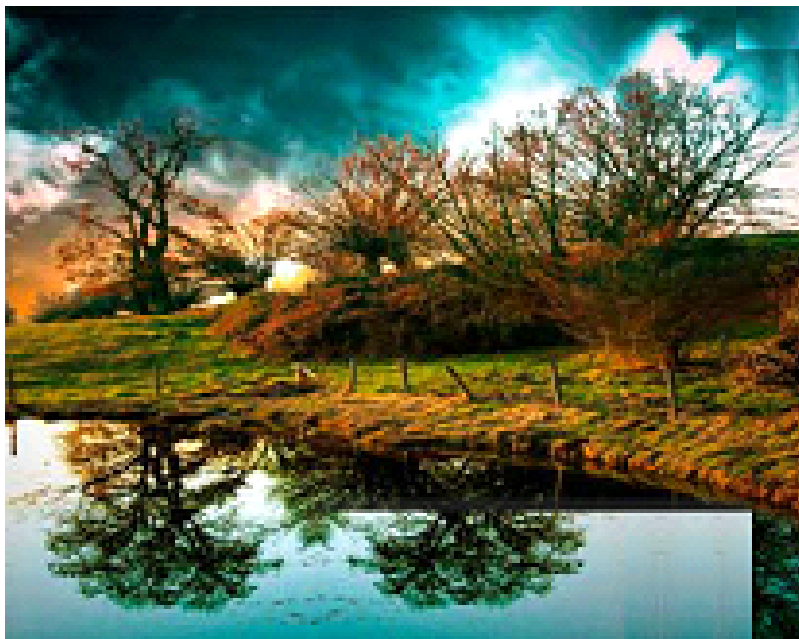
Whatever your Knowledge is of the Self that is true even now, such as the fact of your own existence, is not through thought. You do not require thought to know that you exist.

Similarly, the Realization of the Self is not thought dependent. The inquiry, likewise, is not thought-dependent. Of course, one may commence meditation by thinking, "I", yet as soon as the Self-Inquiry turns further inward, the experience is that of Consciousness abiding quite free of any thought, even the thought of "I".

If you try to search for the Self, regarding it as something objective, the intention is good, but the results will not be vast enough, deep enough, or enduring, for it is the nature of every objective occurrence to come and go, to have a rise and a set, whether it be in thought or through the senses. Appearance becomes disappearance. Something gained is also lost. If it: is born, it perishes. Seek to know your Self in a way that is nonobjective.

In seeking to know yourself in That, by That, which is nonobjective, you arrive at that which is very vast and exceedingly deep. It is your own nature. No thought can compare to this, let alone anything sensed through the body. That which is nonobjective is illimitable. It has no beginning or end or interruption. It undergoes no change, and it has no condition. By inquiring to know your Self, setting aside everything that is objective, you easily come to something that is detached from all, that is perfect, and that is all peace in itself: By finding That which is non-objective, your own true Self, you find yourself abiding in That which is Bliss, itself—the unconditional, unlimited, real joy of the Self—the very same that was intuited in every desire for Happiness, the very same that motivates the drive for Liberation and the seeking of Self-Realization. That perfect, transcended Bliss is your own Being. You should have no doubt about this,

The Maharshi revealed Truth by exquisite instruction and by example. In his Silence, the instruction and example were identical and simultaneous.



NMT (No-Me Teaching) new series 100:

Ribhu Gita (Tamil) Ch 36:

(3)

Except for the Supreme Brahman, which is boundless Being, ever present Consciousness
Of the nature of a mass of unsurpassed Bliss,
Connectionless, without attachments.

Existing alone by Itself.

There is nothing such as the Body and others, ever.

All is indeed. the undivided Supreme Brahman,

And that Brahman, the subtle is indeed myself.

By such pure conviction (*bhava*) of the Absolute, conquer the Mind.

(4)

Except for the Supreme Brahman,

Of the nature of the blemishless, partless, formless, taintless, peerless, attributeess,
immaculate Self without any false projections,

Which is spread out as the infinite and the gapless,

There never is anything — ever.

All that exists is the undivided Supreme Brahman,

And that Brahman. without Duality. is myself.

By such conviction (*bhava*) of the Supreme Brahman, the One, conquer the Mind.

(6)

There is not a bit apart

From the magnificent Supreme Brahman,

The holy Supreme Lord, the Supreme Self,

Of a nature that is higher than the highest and completely, perfectly full,

(If the nature of *That* which is Truth-Consciousness-Bliss (*Sat-Chit-Ananda*),

And the undecaying Brahman is myself indeed.

By such silent conviction (*bhava*), conquer the Mind.

(13)

The elements and Nature, their combination

The World and all things are entirely of the nature of Brahman.

All the perishable worlds are entirely of the nature of Brahman.

The worlds which are not yet created are entirely of the nature of Brahman.

What appears as a difference is entirely of the nature of Brahman.

The myriad galaxies are entirely of the nature of Brahman.

Great Sage ! by the delusionless conviction (*bhava*) that I am that Supreme Brahman,
Conquer the Mind.

Some disciple of Ramana Maharshi quotes:

That which dwells within all this, that through which Awareness itself becomes aware, that which exists in each thing as its individual nature, is the true “I” that shines as pure Consciousness.

The indivisible Reality that dwells within is Consciousness itself.

The Truth of the Self shines as pure Consciousness underlying the Mind. The fitting course is to discern it in the heart through Being–Consciousness & then to establish it firmly there through deep contemplation, so that the fetters of worldly bondage – the companions of lustful infatuation – disappear, being revealed as the false, & Liberation, the mark of the Real, shines forth.

Bitter worldly bondage arises through the degrading error of mistaking the Self, Being-Consciousness-Bliss, for the insentient body. It can only be removed through the certainty of the experience of Self-Inquiry that is filled with the divine light of Consciousness.

Know that the perfectly pure Self will well up as a flood of deep Peace in the hearts of those who have come to know Reality as it truly is through Self-Inquiry. What is required is to perform worship of that Self within a collected Mind, so that the Mind melts away to the power of the true Love that is free of guile.

Turning to the One purified Consciousness within us, the Witness, one should gradually bring it to the fore and then become aware of the perfection of one's True Nature.

Those who focus on the Self that is Consciousness, who have put away the outward, the imaginations of the Mind & senses, & selfish Personality, they are freed from the bonds and snares of the World, but not they who only meditate on what others have seen.

Based on the Teachings of a great Sage:

Duality is the seeming division of non-dual Consciousness into thinker & thought, or subject & object. The one [*thinker & subject*] being conscious of the other [*thought & object*].

Duality is only a figment. When I am conscious of an object, that is, of a Notion or a Percept, that *object* alone is present. When I am conscious of my perceiving, what alone presents itself to Consciousness is the Notion that "I perceive the object". Therefore the notion of my being the Perceiver also constitutes an *object* of Consciousness. From this, a most important fact emerges: the so-called subject who thinks, & its apparent object, have no immediate relation.

That the notions of *subject* & *object* are separate thoughts may be seen from the following example, drawn from everyday Life. When we are absorbed in some activity, let us say in reading a book, we experience a steady flow of thoughts relating to its contents. The notion, "I am reading" does not occur while we are thus absorbed. It occurs only when our attention wavers.

Even when we are not thus absorbed for any appreciable lapse of time, the *subject* who afterwards lays claim to the action was not present to Consciousness when the action was taking place. The idea of our being the agent occurs to us as a separate thought, which is to say that it forms an entirely fresh object of Consciousness. And since, at the time of the occurrence, we were present as neither the Thinker, the Agent [*actor*], the Perceiver, nor the Enjoyer [*includes Sufferer*], no subsequent claim on our part could alter the position.

The cause of our claiming that which belongs to the Body is to be found in the erroneous habit of mis-identification. If the notions of *subject* & *object* are both the separate objects of Consciousness, neither term has any real significance. An *object*, in the absence of a *subject*, cannot be what is normally called an *object*. The *subject*, in the absence of an *object*, cannot be what is normally called the *subject*. It is in memory that the 2 Notions seem to combine to form an entirely new Notion, I am the Perceiver or the Thinker.

Now all Notions are more or less complex. Memory is therefore an ingredient essential to the Sense of Individuality. Individuality is the apparent combination of the changeless Self & a changeful Body. Ignorance is the identification of Body & Self &, as a corollary, the personification of the impersonal principle of Consciousness.

We remember that alone which has affected us. What affects us is Pleasure & Pain. The Memory of Pleasure & Pain gives rise to Desire & Aversion. These 2 [Desire & Aversion] in action become Will. And Will in its widest Sense, makes us seek what Memory tells us has been found agreeable or necessary to Life & avoid what has been found disagreeable or hurtful to it.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

Your nature is like pure Space, unmoving even when the instruments of body, speech, and mind move. Misidentify and you will become concerned with thinking, speaking, and doing as if they were the "I". Inquire. Who gets caught up with these ? The Silence is perpetual. It is your real Being. You are not the performer of actions. You are not the doer and not the speaker. Again, "Who actually gets caught up?" Are there 2 of you ? Is there one that is the real Self and one that gets caught up ? Thus, there are 2 aspects of the inquiry.

The first aspect, which is primary, is to clarify the distinction between your actual Being, your Self, and the instruments of the body, speech, and mind. When the body moves, you do

not move. When the body is still, you are not still. When speech is being used, you are not speaking. When thought is occurring, you are not thinking. You are never the actor, the agent, or the performer of actions, a speaker, or anything similar. To clarify the identity in Knowledge is this first aspect The second aspect referred to is to inquire, "Are there 2 of you, a real Self that is perpetually at Peace in Silence and another "self" that gets caught up? Whose delusion is it?" If you inquire like. this, it is ultimate Self-Inquiry.

The one, Absolute, Non-Dual Self alone exists Eternally. The Self neither begins nor ends, neither expands nor reduces, has no phase or condition, & is ever just as it is. The Self alone is present always.

I first imagine self other than the Self.
 I then believe that Thought exists.
 False belief that Thought exists
 is projected upon Existence.
 Thought formed, what happens?
 In the Space of Consciousness,
 how do the Thoughts form?
 Thoughts are the form – substance
 of mis-identifications made. As
 Thought Mis-Identification takes form.
 Thought cannot possibly be I am,
 so I don't identify myself with a Thought
 & I am already where I want to be.
 For whom could Thought seem to be?
 The Existence of the one who
 would try to hold to Thought
 would prove Existence itself.
 Absolute Existence is devoid of
 Thought & free of Thought.

NMT (No-Me Teaching) new series 101a:

Sankara quotes:

The veiling effect only disappears with full experience of Reality, & the elimination of false knowledge leads to the end of suffering caused by that distraction.

There is no such thing as ignorance beyond the thinking mind. Thought itself is ignorance, the cause of the bondage of becoming. When thought is eliminated, everything else is eliminated. When thought increases everything else increases.

In the Silence is the highest Peace because wavering is the intellect's unreal work; there the knowers of the Eternal, mighty-souled, enjoy unbroken happiness of partless Bliss, recognizing the Self as the Eternal.

There is no higher cause of joy than silence where no Mind-pictures dwell; it belongs to him who has understood the Self's own being; who is full of the essence of the Bliss of the Self.

Through unwavering ecstasy is clearly understood the reality of the Eternal, fixed & sure. This cannot be when other thoughts are confused with it, by the motions of the Mind.

Whose being neither intellect nor reason knows — this is the Eternal, That Thou Art.

Ribhu Gita (Tamil) Ch 37:

(5)

If you always flawlessly practice the certitude
That the Body exists not, the Senses exist not, the beings exist not.
Ideas exist not, the Mind exists not,
The Ego exists not, Thought exists not.
Its root, Ignorance, exists not.
In the firm certitude of the Supreme Brahman is practiced in faultlessly always.
The manifold Mind that differentiates
Will disappear like darkness before the Sun.

(6)

There is no Wakefulness, no Dream, no Deep Dreamless Sleep,
No "4th State" to be sought.
Nothing of Multiplicity.
Nothing as a collection of separates or as an integrated coalescence,
And no World of parts at all.
Attaining the certitude of the undivided Supreme that all ever is Brahman,
And thereby correcting all the misconceptions of the Mind,
Abide as the exalted Supreme Brahman alone.

(7)

Whatever is seen as Illusion as apart
On the Substratum of all, the Supreme Brahman,
Is nothing but the Substratum, the Supreme Brahman itself,

And not a trace apart.
Attaining such certitude,
By worthy Inquiry in a process of Negation,
And thereby changing all the misconception of the Mind,
Ever abide as the exalted Supreme Brahman alone.

Sri Bhagavan Ramana Maharshi's "Upadesa Saram" with 10 Meditation points by his disciple, Master Nome:

(12)

Mind & Prana are Consciousness combined with activity & are 2 branches rooted in Shakti.
Mind & Prana are combined with, connected to, the activity of Consciousness

1. Consciousness is innately unmoving, & being Absolute, is eternally so without any modifications ever.
2. If there is an motion, it is only the infinite Consciousness that appears as that which moves & its motion within itself.
3. Consciousness combined with the supposition of activity appears as the Mind & *Prana*. Such are only the activity of Consciousness
4. The supposition of the connection of activity with Consciousness depends on the supposition of a connection between Consciousness & the Mind & *Prana*.
5. The appearance of Mind & *Prana* are rooted in the same power. The power of the Mind & *Prana* is of the same root. This one root power, *Shakti*, is never apart from Shiva, of the nature of Absolute Consciousness.
6. Without *Prana*, there can be no Life of the Body, Senses, & such. Without the Mind that can be, there can be no Cognition, thoughts & such. Without Consciousness these cannot be, or be known. The root of their power, Existence, & the Knowledge of them is Consciousness.
7. The activity of Consciousness is perceived only by the activity of Consciousness. The existence of the Mind is conceived only in the Mind, & the Mind & *Prana* are perceived only by the Mind with *Prana*. Moreover, Consciousness is the only knower.
8. Consciousness is always undifferentiated. Spiritual instruction pertaining to any apparent difference is only for the purpose of revealing the Undifferentiated, pertaining to multiplicity to reveal the Non-Dual, pertaining to the unreal to reveal the Real, pertaining to the created to reveal the Uncreated, & pertaining to the branches to trace, discern &, & reveal the Root.

9. One who abides in the Source of is not misidentified with the branches. The nature of the one is solely Consciousness, which alone can abide as itself. Even while the branches are still aloft, that one abides as the inward indestructible Root & is thus fully Liberated while alive.

10. The Mind & *Prana* are known by their activity. The Self, Consciousness, is the power that shines as their activity, yet remains as their transcendent Knower. The Self is the Root of all the branches yet remains without branches & is rootless. The Self is never associated with anything else, yet all our ever in union with it.

(13)

Dissolving & utter Destruction of both forms of control. That which is dissolved becomes again, but that which is dead does not.

1. To change the form of Ignorance, even stoppage thinking the thoughts composing it, without knowledge of the truth, is merely temporary dissolution.

2. True Knowledge completely destroys Ignorance, inclusive of its forms & very existence. When one knows Ignorance to be just Ignorance, it ceases to exist.

3. A change of the Mind's state or mode is changeful. The cessation of the Mind itself, by True Knowledge, is forever.

4. A change of the Senses & their activities is temporary respite. Knowledge of the one source of Happiness is permanent freedom from attachment to the Senses. Destroyed by blissful Knowledge, Ignorance is not revive.

5. A change of state is temporary relief from the forms of the unreal. Knowledge of the Reality, self revealed in the comprehension of how unreal the unreal is, is complete destruction of the unreal forever. Destroyed by real knowledge, Ignorance does not revive.

6. A change of thought & even its stoppage, by means of *Prana* or Mind, may bring a temporary dissolution of the form of one's identity. Knowledge of the Self completely destroys the misidentification, the tendency to misidentify, & the idea that is involved in such. Destroyed by Self-Knowledge, Ignorance does not revive.

7. Destruction is only of the unreal. That which is real cannot be destroyed at any time.

8 If believed to exist, the actually unreal, after dissolution seems to return. That which is destroyed by the Knowledge of Existence does not recur, for how can that which was never created be created again ?

9. A Mind in abeyance is only restrained. Absorption in Self-Knowledge is a Mind that has ceased. Outwardly & transiently they may appear similar, yet inwardly & lastingly they are entirely distinct.

10. Self-Inquiry aims at the Death of the Mind, in which its content & the very notion of an existing Mind are, with finality, abandoned & gone. Finality lies in the Absoluteness of the utterly Non-Dual Self.

Based on the Teachings of a great Sage:

Life, or individual existence, is the expression of Non-Duality. Life proceeds in terms of Desire & Aversion. Desire & Aversion apply to the different modes of individual experience. The commonsense distinction between Mind & Matter is unreal. Desires appear at times to be Physical & at others Mental.

These, then, are also the expressions of Non-Duality, for the ultimate *object* of every Desire is to become Desireless. Aversion is simply the obverse of Desire & has the same target. This is the manner of looking at Pleasure & Pain. Meanwhile, it is evident that the search for the one [Pleasure] & the avoidance of the other [Pain] are the sole & complementary aims of individual existence at all levels. Neither would be possible without Memory.

The Thinker is an *object* of Consciousness. I can remember only what I have known. I remember not only my thoughts. I remember also my having thought. It follows that I, as the Thinker or Individual, am the object of Consciousness. But as the knower of this & of all other objects, it follows that I am Consciousness itself.

Egoism & the Act of Remembering. Whenever the 2 It is the same thing whether these memories are Conscious, Unconscious, or Subconscious, whichever of the 2 last expressions is preferred. Whether the knowledge or the memory is correct or incorrect makes no difference. The principle of

Consciousness gets identified with the Body, the false notion of my being the thinker springs up. That which claims to have been conscious of an event at which it was not present is the Ego, or the I-thought. Thus the Ego can claim only what has gone before & the experience so claimed is a remembrance.

As just now stated, the false notion of my being the thinker arises whenever there is identification of the impersonal principle of Consciousness & the Body. The effect of this identification is to divide Non-Dual Consciousness into the ostensible Duality of a conscious *subject* & its *object*. Since the *objects* of Consciousness appear discontinuously;

& since, moreover, the conscious *subject*, made *objective* in the form of the claiming I-thought, also appears discontinuously.

The Consciousness that illuminates them seems to be discontinuous too. When Non-Dual Consciousness seems in this way to be conditioned by Time, it seems to assume the form of a faculty of remembering that gives cohesion to what would otherwise be a state of total flux, unimaginable & impossible because it could not be known by a knower who, by his having no continuity, must perforce change at every Perception. He could not even know himself.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

When you have been in Satsang, have you had an experience in which your mind suddenly turns around, or in which you see more deeply, as we are talking. That is what you are asking about. Your eyes are open, and you have been carrying on a conversation. Was there any difficulty in that revelation ? It was rough on the mind since the revelation went contrary to existing ideas, but it is precisely when you knew yourself in a deeper way, contrary to ideas, that there was experience. Obviously, whatever kind of instruction, teaching, thought, etc., that would be in conformity with your existing bound thoughts would not do that much good for you. It may be very popular with you, but it will not do you that much good. That which runs contrary to the mind's conception does good. Real spiritual reasoning, in a profound sense, runs contrary to and uproots all the concepts of the mind. When it runs in compliance, or conformity, with the concepts of the mind, it is nothing more than self-validating delusion. That delusion is false and is actually totally unreasonable. It will not stand up to the light of inquiry. You have had this experience with your eyes open. Did you bring in any special method to do that ? You are not a performer of action then.

Inconceivable, indivisible,
immeasurable **Existence**
without limit or differentiation, it
admits of no Creation of any else,
any other, & is what I am & what
I have always known. I cannot
be thought. First realize the Self's
freedom from Thought, yet unconcealed,
without attributes. Suffering & limitation
are ideas, like Dream, unreal **Thought**
like Mis-Identification. Whether or not
Thought exists, distinguish one's Identity
from and free that Identity from whatever is
conceived. Self-luminous, Un-conceived
remains, **Existence** as itself, Worldless,
Timeless, & Spaceless, without "this &
that, here & there". Who could observe
those ? Examine his identity.

NMT (No-Me Teaching) new series 101b:

Sankara quotes:

Through information, digging, & casting aside the stones, a treasure may be found, but not by calling it to come forth.

The products of natural Causation, from the idea of Doership down to the Body itself & all its Senses, are also unreal in view of the way they are changing every moment, while one's True Nature itself never changes.

Give up identification with this *mass of flesh* as well as with what *thinks* it a mass. Both are Intellectual *imaginings*. Recognize your true Self as undifferentiated awareness, unaffected by Time, Past, Present or Future, & enter Peace.

So long as even a dreamlike awareness of yourself as an Individual in the World remains, as a wise person, persistently see to the removal of all ideas of additions to your true Self.

The tendency to see "me" & "mine" in the Body & the Senses, which are not oneself, must be done away with by the wise by remaining identified with one's true Self.

The sage who stands in the Eternal, the Self of being, ever full, of the 2ndless Bliss of the Self, has none of the hopes fitted to Time & Space that make for the formation of a Body of skin, & flesh, subject to dissolution.

When the false self ceases utterly, & the notions of the Mind caused by it come to an end, then, by discerning the hidden Self, the Real Truth that "I AM THAT" is found.

Ribhu Gita (Tamil) Ch 37:

(8)

What is conceived of as separate is Duality.

The Inquiry into the undivided Supreme Brahman will remove this misconception.

All that are of the nature of Delusion —

All that are completely unreal —

All such appearances are of the nature of the partless Supreme Brahman.

By such certitude of the undivided Supreme.

Undefiled by the idea of anything apart.

Abide as the exalted Supreme Brahman alone.

(11)

That I am ever the Individual subject to Bondage,

That I am ever Brahman without Bondage.

That all this wondrous World and such are unreal —

All such perceptions are of the nature

Of the all pervasive Supreme Brahman.

By such exalted certitude of the undivided Absolute,

Abide as the taintless Supreme Brahman alone.

(12)

All the ideas that cloud the Mind.

Such as the actions to be performed daily,

The steadfast devotion.

The endless contemplation of God,

And the worship at shrines,

Are all of the nature of the exalted Supreme Brahman.

By such profound certitude of the undivided Absolute,

Abide as the taintless Supreme Brahman alone.

Sri Bhagavan Ramana Maharshi's "Upadesa Saram" with 10 Meditation points by his disciple, Master Nome:

(14) *From controlling the Prana, the Mind is dissolved.*

From thought of the One, that Mind reaches destruction

1. *Prana* does not know. When suppressed or controlled, it does not know it is so. If *Prana* dissolves or merges, it does not know in what it dissolves or with what it merges.
2. The Mind does not know. When dissolved or merged, it does not know in what it is dissolved or with what it is merged.
3. The one Consciousness alone knows. The Mind is not a 2nd knower. It is merely the Known & cannot know the true Knowledge.
4. Alteration, reduction, dissolution, etc. of objective appearance, such as *Prana*, alters, reduces, & dissolves the activity of Mind. This is not final, for it is not Absolute. Non-objective Self–Knowledge alone destroys Illusion.
5. Contemplation of the One becomes singular contemplation in which there is no division of contemplator & contemplated.
6. Thought cannot know. It neither knows itself nor other thoughts. It cannot know the Self. In the thought of the one Self, it is the knowledge–essence that shines.
7. If that which appears as thought turns inward in a singular manner, the Mind is destroyed, & only the one Consciousness remains.
8. That which appears as the One Thought, which is the thought of the Absolute Self, of the non-objective & Eternal, of that which is thought–transcendent, is in essence really not a thought–form at all. The One Self shines for itself.
9. Due to is a singular contemplation, from the One Thought of the One, the Mind is said to then reach destruction. How can the Mind reach where it is not ? That one, undifferentiated Consciousness reposes in the self, as itself.
10. Singularly inward turned, contemplating in the inconceivable, no 2nd Knower is found to exist, & the One alone remains

(15) With Mind destroyed, for the exalted yogi, because of his Self-Abidance is there anything to be done ?

1. With Mind destroyed, the yogi exist as only Mind–free Being–Consciousness. No Mind is no Individuality. Being–Consciousness exists as itself.

2. The real Self cannot be destroyed. Only the unreal is destructible. The individual Mind is ever unreal & does not realize. The yogi is solely identified as a real Self, which realizes itself. The yogi who knows the Self is the Self always.

3. Exalted above the World, Body, Mind, & Ego, the yogi's very nature is in Union, *yoga*, with the Absolute Self, for the Self is only one. This is excellent, for such is the highest Bliss.

4. As long as there's nothing else other than the Supremely blissful, Eternal Being of the Self, there will be the urge to accomplish, in order to attain Happiness, to know what is Real, to find oneself. For the exalted yogi who rests in that as that, there is nothing else to be accomplished.

5. For something else, either as purpose or doer, something needs to be done. The natural state of one's own Self, Being itself, how can there be the ideas of the to-be-done & one who does ? Does one do anything to exist ? Is Existence not Eternal but only to begin at a later time ? The exalted yogi abides in as his own Nature.

6. Since Being is as it is & is Non-Dual, Abidance is Knowledge; not knowledge of or by another, but knowledge identical with Being. Consciousness is Knowledge.

7. Abidance is Being, not becoming another. The Self is Being. Being is not a thing, an activity, or an event.

8. Activity is for the instruments of the Body, Speech, & Mind, or for the Senses, or for the *Sheaths* ("layers" of Mind). Free of mis-identification with any of these, abiding as the Self alone, the yogi truly never does anything.

9. Being something other than the Self, doing & the to-be-done, & indeed anything else whatsoever, are entirely in an of the Mind. These are utterly inapplicable, indeed non-existent, for the exalted yogi whose Mind is destroyed & who thus abides as the Self.

10. The destroyer is Siva, the one who remains is Siva, the excellence is a Siva, the yogi Siva, the all accomplishing is Siva, the ever-attained Siva, the Self is Siva, the Abidance is Siva, & Siva is always Siva. The yogi attains that which leaves nothing further to be attained, experiences the Happiness that leaves no other joy to be desired, knows that which leaves nothing else to know, realizes that which leaves nothing else to realize, & abides as that for which there is no other existence.

Based on the Teachings of a great Sage:

Duality is the seeming division of non-dual Consciousness into thinker & thought, or subject & object. The one [*thinker & subject*] being conscious of the other [*thought & object*].

Duality is only a figment. When I am conscious of an object, that is, of a Notion or a Percept, that *object* alone is present. When I am conscious of my perceiving, what alone presents itself to Consciousness is the Notion that "I perceive the object". Therefore the notion of my being the Perceiver also constitutes an *object* of Consciousness. From this, a most important fact emerges: the so-called subject who thinks, & its apparent object, have no immediate relation.

That the notions of *subject & object* are separate thoughts may be seen from the following example, drawn from everyday Life. When we are absorbed in some activity, let us say in reading a book, we experience a steady flow of thoughts relating to its contents. The notion, "I am reading" does not occur while we are thus absorbed. It occurs only when our attention wavers.

Even when we are not thus absorbed for any appreciable lapse of time, the *subject* who afterwards lays claim to the action was not present to Consciousness when the action was taking place. The idea of our being the agent occurs to us as a separate thought, which is to say that it forms an entirely fresh object of Consciousness. And since, at the time of the occurrence, we were present as neither the Thinker, the Agent [*actor*], the Perceiver, nor the Enjoyer [*includes Sufferer*], no subsequent claim on our part could alter the position.

The cause of our claiming that which belongs to the Body is to be found in the erroneous habit of mis-identification. If the notions of *subject & object* are both the separate objects of Consciousness, neither term has any real significance. An *object*, in the absence of a *subject*, cannot be what is normally called an *object*. The *subject*, in the absence of an *object*, cannot be what is normally called the *subject*. It is in memory that the 2 Notions seem to combine to form an entirely new Notion, I am the Perceiver or the Thinker.

Now all Notions are more or less complex. Memory is therefore an ingredient essential to the Sense of Individuality. Individuality is the apparent combination of the changeless Self & a changeful Body. Ignorance is the identification of Body & Self &, as a corollary, the personification of the impersonal principle of Consciousness.

We remember that alone which has affected us. What affects us is Pleasure & Pain. The Memory of Pleasure & Pain gives rise to Desire & Aversion. These 2 [Desire & Aversion] in action become Will. And Will in its widest Sense, makes us seek what Memory tells us has been found agreeable or necessary to Life & avoid what has been found disagreeable or hurtful to it.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

Knowledge of the Self is based upon the seeker having a firm conviction in the Identity, or Non-Duality, of *That & thou* as expressed in the Upanishadic *Mahavakya*: “Thou art That.” This reveals the Identity of Self & the Absolute (*Brahman*). Seeking Realization of the Absolute, *Brahman*, seek to realize the Self as it truly is [*not the apparent, personal individual "self" based on the Body*]. The Realization of the Self is our only true, natural state. Any other state is Illusion (*the Perceptions that fool us into feeling limited to the apparent, personal individual "self" based on the Body*) & the product of Delusion (*fooling ourselves into identifying with the apparent, personal individual "Mind" based on the Body*). The ultimate nature of Illusion is non-existence (*that is, it does not really exist*).

What is Identity of the one
who could say, or think,
“This **Thought** exists” ? Who becomes
caught up in the idea of that **Thought**.
Inquire into his Identity. If his Identity is not
inquired into, there may be few or many
Thoughts, but the same dualism prevails.
For **Existence**, which is Absolute, there can
be no **Thought**, or question of a **Thought**, at
any time. **Existence** cannot be modified into
something else, & experiences no change.
It just is as it is forever, for it is absolute
Existence. If something appears to happen,
such as a **Thought**, the question is: For
whom does it happen? What is his Identity ?
It is not of great significance whether it
happens occasionally or frequently,
or if it is a sparse occurrence or a very
cluttered occurrence. For whom does it
happen? What is his nature? Absolute
Existence is void of **Thought**.

NMT (No-Me Teaching) new series 102:

Ribhu Gita (Tamil) Ch 37:
(13)

The sense of possession, which thinks "this is mine, mine,
The Ego which thinks of "I", "I",

The variegated things that are considered internal —
All appearances of such different categories
Are such profound certitude of the undivided Absolute,
Abide as the taintless Supreme Brahman alone.

(14)

The forms of Matter such as Energy, Space, Gas, Liquid, Solid,
The categories of Life functions such as Speech etc.,
The endless variety of the World to which the experiencer is subject.
The millions of galaxies in the Cosmos —
All such baseless appearances of such different categories
Are of the nature of the Supreme Brahman.
By such undiminishing certitude of the undivided Absolute,
Abide as the Non-Dual Supreme Brahman alone.

(17)

All projections that arise as in a picture.
Such as the decisive functioning of the Intellect,
The doubtful functioning of the Mind,.
The ghostlike emanations of thought,
The multiplicity of experiences —
All these activities are of the nature of the Supreme Brahman, Consciousness alone.
By such clear certitude of the undivided Absolute,
Abide as the Supreme Brahman, the mass of Bliss alone.

Sri Bhagavan Ramana Maharshi's "Upadesa Saram" with 10 Meditation points by his
disciple, Master Nome:

(16) *The Seen ward off, the Mind is of the Self. The revelation of Consciousness is the
revelation of the Truth.*

1. Consciousness plus the supposition of the objective, gross or subtle, appears as a Mind.
Devoid of the objective, the only thing that remains of the Mind is Consciousness, which is
the Self.
2. There is no such thing as a non-objective thought. There is no such thing as a Mind
without thought. These are merely imagined where there is, in truth, only one *tattva*, the that
is truth or principle.
3. The objective is form, multiple, transitory, limited, the perceived & the conceived, not the
Self, & unreal. The non-objective is Formless, Non-Dual, Eternal, unlimited, neither
perceived nor conceived, is the Self, & is the Reality

4. The objects are only of the Mind, the Mind is only of the Self, the Self is only unalloyed, Absolute Consciousness, & Consciousness, itself is the Truth.
 5. To know the Truth, one should make his vision non-objective. Consciousness is Truth. Its revelation or itself to itself is non-objective.
 6. The very Consciousness that, appearing as Mind, turns inward to see the Truth, free of delusive objective definitions, is not a Mind at all but is of the very nature of the Self.
 7. One who pursues Consciousness is Consciousness, for that is the only Knower. The Truth revealed & one for whom the Truth is revealed are the same, for that is the only Being.
 8. Warding off or turning away from the objective, is by knowledge, & not by objective means. Knowledge is the fruit of Self-Inquiry.
 9. The revelation of the Consciousness of the Self, in which the non-objective illusion of the Mind does not arise, is the revelation of Truth.
 10. The perception of *That* is the perception of self-luminous Consciousness of the Self, which is self-revealed when that which is objective is no longer imagined in the Mind.
- (17) *What then is the Mind ? Upon seeking, there is not indeed the Mind. This is the direct path.*
1. The unreal appears as if Real by non-inquiry. Upon Self-Inquiry it vanishes.
 2. Illusions, such as the Mind, is only assumption.
 3. True knowledge, which is the essence of Self-Inquiry, is not unreal, for the unreal cannot destroy itself or reveal its own Existence.
 4. That, which knows that the Mind is it is not is not existent, is not the Mind, & is never non-existent. It is immutable, beginningless, & endless.
 5. If one assumes that appearances a real, from the form of thoughts, a Mind is assumed. If one seeks the Mind itself, there is neither the form no thought, & devoid of assumptions, no such thing as Mind is found to exist. One Formless Consciousness exists & is Real.
 6. That which does not assume the validity of suppositions concerning what is Real & what is I, but discerns clearly, unimpeded by assumptions, is the Direct Path, for such Self-Inquiry to know itself does not include any of the Dualism that one strives transcend.

7. To assume the Mind exists & is oneself &, maintaining that supposition, attempt to destroy the Mind & its delusions, is indirect & is an attempt to realize the Truth upon a basis of that which is false. Knowledge is not attained by means of Ignorance. In the abandonment of Ignorance, Knowledge shines.

8. Comprehension of Ignorance, as being only Ignorance, is its end. The Realization of the unreality of the Mind is known as its complete, final destruction. For that which was never born, never existed, there is no return.

9. If there were a Mind, it might divide the Self from oneself. If there is no Mind, there is no such separation.

10. By the Direct Path of Truth, by the light of Self-Inquiry, in which imagined divisions are no longer assumed, the Self knows itself with Mind-free knowledge, as indivisible one Reality. What could be more direct than the one Self as it is ?

Based on the Teachings of a great Sage:

“What am I ?” “What is the purpose of this existence ?” “What is Life ?” “What happens after Death ?”

Many systems of philosophy claim to answer these questions, but not many can offer at the same time the means to experience directly the truths they contain; and when the means are lacking, it is a sure sign that the answers themselves are inadequate.

When the right answers are given & understood, they bring about such a revolution in the Mind of the seeker that until he has experienced them in the most concrete manner, he feels he cannot rest. *Advaita Vedanta* or "Non-Duality", and has been practiced in India from the most ancient times right up to the present, (*though in its purest form it has not been practiced by the majority of that population*).

We are concerned with finding answers to our questions. The meaning of *Vedanta*, is the end or attainment of Knowledge. Here is an attempt to find a solution to those problems which have always faced mankind.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

That should be known as Self Realization in which no alternative is possible, in which there is just one infinite, unconditioned, eternal, homogeneous, formless Self, which is not the cause of anything which is not the effect of any thing else, in which there is nothing else, but which is infinite, with no division, no separation, & which has no parts within it. It is

Absolute & not in relation to anything else, but just is as it is. As for anything else, it also is just the same Absolute. To realize this is very simple. It is simpler than even a thought. It is simpler than the idea of "I". That divine simplicity lies where you are alone with no "I" to disturb you.

All that appears to exist is utterly dependent on this **Existence**, which is **Absolute**, but this **Absolute Existence** is devoid of any such modification or change, & devoid of duality, devoid of **Thought**. Something seeming to rise is based upon some kind of differentiation from **Existence**. This split styles itself as "I" even without the word, "I". It is the notion, mere supposition, that there is "I". Whether he has many **Thoughts** or very few **Thoughts**, I need to find his Identity. If I find his Identity, he ceases to exist as such, & all that remains is the **Absolute Existence** in which nothing ever happened. Inquiry is always the inward, non-objective examination of the Subject. **Seer** & the **Seen** are known to be only **Existence** & have no different **Existence** whatsoever.

NMT (No-Me Teaching) new series 103:

Sri Bhagavan Ramana Maharshi's "Upadesa Saram" with 10 Meditation points by his disciple, Master Nome:

(18)

Modes of the Mind now, are dependent on the "I"–notion. Modes & thoughts are the Mind, know the "I" is the Mind

1. The Mind appears as states, modes, & thoughts, & has no form apart from them.
2. All of them appear for "I", who is defined as the conceiver or experiencer of them. They depend on "I" & are never experienced independent of "I".
3. That which is dependent has only a dependent existence & never otherwise, does not actually exist as such, or is non-dependent, actual Existence, the Substrate, mis-perceived as such.

4. The self existent alone is Real & is the self. One should inquire within & thus abide as the Self, which is self-existent Being, self-existent Consciousness, & self-existent Bliss.

5. The entirety of the Mind is merely the “I”–notion in various guises.

6. Knowledge resolves the Mind into I. Knowledge is not in the Mind. If Knowledge were in the Mind, it would not know the resolution. It is beyond the Mind & even knows the “I”.

7. Self-Realization is not a mode of the Mind. It is not reached by thought or by an assumed, illusory “I”. The Self is true Knowledge of itself, which is just Being, itself is the nature of Realization.

9. When the “I” is obstructed by notions of conditions of the Mind, it is only “I” obstructing itself by itself with itself. A mistake mistakenly mistakes itself as some mistake, which is mistaken to be otherwise. Imagination imagines itself to be otherwise. 10. Inquiring "for whom ?" is the cessation of imagination, which returns a sense of Reality & Identity from the Mind, which is only thought, to “I”. And thence inquiring "Who am I ?" reveals Self as it is, which is the sole–existent Reality.

(19)

From where does this “I” come to be ? From one who knows, oh ! The “I” falls. This is Self–Inquiry.

1. The “I” does not come from the objects or the Sensations conceived as objects, for the belief in objects is for the “I”.

2. This “I” does not come from the Body, its activity, its parts, or a location in the Body, for the Body & such are for the “I”.

3. This “I” does not come from thoughts, for they are for the “I”.

4. “I” cannot arise from another & cannot arise from itself, for "another" is only for “I” & "for itself" presumes the I's pre–existence.

5. The supposition of a connection between Being–Consciousness & objects, Sensations, a Body, & Mind, & the supposition of the Self as existing in them or because of them or as possessing them as attributes, are delusive.

6. “I” can only be for the Self, yet the immutable Self does not give birth to an “I” at all, at any time.

7. The nature of the Knower is the Self, so the “I” falls from the Knower, & his own Being is revealed. Therefore, this Self-Inquiry is one's own Inquiry.

8. Not being of an “I”, not being a mental mode, Self-Inquiry is constant, just as Consciousness is. Neither of an “I”, nor of anything else, the Self-Inquiry is into & of the innate, & the Knowledge thus revealed is Innate, just as Being is Innate.

10. The classification of Knowledge of one's Being, in which the falsely assumed Individuality ceases, is this is essential, non-objective Self-Inquiry that yields Liberation from all the imagine Bondage.

Based on the Teachings of a great Sage:

What is man ? We have to begin with man because it is as men [*humans*] that we ask these questions. It is therefore in connection with ourselves that these problems arise; we must know also whence they come. The first one was “What am I ?”; the others were "What is the purpose of this existence ?“ “What is Life ?” and “ What happens after death ?”

It will be seen that if the first question, "What am I?" is answered to our satisfaction, the others will also stand explained. Now what we have to understand is the nature of the being who refers to himself as "I". We may say, for example, “I am hungry”, “I feel cold”, “I sat down", "I am going tomorrow", or “May I speak with you ?”; in all these examples, the same “I” is given different roles. It is the body that is hungry, the body that feels cold, the body that sat, the Body that will go tomorrow and the Body which is to do the speaking. We are, in fact, identifying ourselves here with our bodies. We also identify ourselves with our minds. If we say, for instance, “I think”, “I remember”, “I wish”, "I can imagine" or “I wonder", does it not show it clearly, for it is the Mind that thinks and remembers & desires & imagines things and asks questions.

We are concerned with finding answers to our questions. The meaning of *Vedanta*, is the end or attainment of Knowledge. Here is an attempt to find a solution to those problems which have always faced mankind.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

"The bodies here do not make for a multiplicity of selves. The idea of "others" exists only in one's Mind, as does the entire world. Trace this Mind to its source. From where do its ideas originate ? You will find they originate from a sense of "I" which is integral to every one of its ideas. Inquire further to see the core, or nature of this "I". You will find its real "I"-nature, the non-ego state." Nome

[*blog author comment*]

Hardly anything is taken for granted more than all the "others" here with us – friends. Relatives, associates, people on the street & where we work. What ? Nobody here but us chickens ? [*an old cliché from a song title, an Our Gang phrase spoken by a racial stereotype kid hiding in a chicken coop, & a turn-of-the-century racial magazine parody long before that*]

All Perception & Conception is thought in an unreal Mind, & that goes for our own Body & all the "others". Oh, we are real & so are they all – but as One Consciousness – not as separate bodies housing separate individuals. If there was a Mind, an empty Container with no form, no boundaries, it would be like a 3-D graph-space with thoughts, somehow floating in the Coordinate Space. It is like a Coordinate Space in that each thought is defined with reference to a central Origin, somewhat as on a graph. Every indefinable thought has supposed meaning, only with reference to that Origin which is Ego. Like this metaphor, or with whatever other theory or nature that a Mind is supposed to have, can any such concept actually be Real ?

Penetrating deeply with Self-Inquiry, abide in "*the core, or nature of this "I" ... its real "I"–nature, the non–ego state*" – the Absolute Non-Dual Self.